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ORIGINAL ESSAYS.

PAPERS *on the Summer* EPIDEMIC, *or malignant Yellow Fever, in many seaports and inland situations of the United States, in* 1819.

EXTRACT *from the Statement of Occurrences of the same, in the City of New-York,* BY FELIX PASCALIS, M. D. *Associate to the Medical Society of Paris, Member of the State and County Medical Societies of New-York, &c. &c.*

THERE are few events, the historical narratives of which would be more interesting to mankind, than those of the epidemical distempers which have desolated so many cities and empires, provided they instructed us in the probable causes which have created them, and of the means left to human wisdom in order to stay or avoid their alarming progress. But this, unfortunately, is not the case. We can scarcely open the book of historical records of pestilence and epidemics, (those of the ancients excepted, who had not refined on natural morbid effects by theories of contagion,) but we find exaggerated accounts, and surmised evidences of afflicting distempers being derived from some foreign climes or distant impure regions. Thus has the hope of human ingenuity and comparative observation, in their application to natural causes of diseases, been always blasted and defeated. But the inconsistency of this mode of accounting for pestilential diseases, will appear by supposing a travel-

ler, who, from one country to another, from port to port, and from one end of the world to the other, should endeavour to find out the native land of plague or yellow fever. In the more enlightened governments he would happen to visit, and inquire about the discovery he intends to pursue, he would be severely hooted at for supposing he had reached the native soil of pestilence. In the West Indies, he would be shown on a map the kingdom of Siam in India, or the settlement of Bulam in Africa, or of Vera Cruz in Mexico, as the true native climes of yellow fever. In every port of the United States, he would be emphatically informed that the yellow fever belongs only to the tropical latitudes of America. If he were surprised afterwards to meet with it in the Mediterranean ports of Cadiz. of Gibraltar, and Leghorn, he would be referred to Charleston, South Carolina. Let him visit then the luxuriant fields of the Thracian Bosphorus. and traverse Constantinople, he will be sent to Grand Cairo ; and the proud Egyptian will return the compliment to some other more ignoble country. Thus, our intelligent traveller, convinced that no clime can be found, which, strictly speaking, is the primordial cradle of plague or yellow fever, would most rationally conclude, that, with certain differences of season and external agencies, both diseases may be the offspring of domestic causes.

That this must be the ultimate desideratum of philosophical inquiry, in the late partial epidemic in the city of New-York, the following pages will satisfactorily demonstrate. Should it be advanced that there have been general instances of yellow fever in European ports (from America, as it was supposed) for which no local causes can account, such as those of Gibraltar, of Cadiz, and of Leghorn, I answer, that in the year 1805, I myself was perplexed by the same idea, and that to explain and remove my doubts, I underwent the trouble and expense of a voyage for the exploration of the localities of the two former places ; and that I was very soon convinced of the existence, in both, of the most powerful causes for the breeding of pestilence in certain seasons.

The city or town of Gibraltar is built on a strip of alluvial earth, about two miles long, very narrow, and completely barricadoed against the east wind by the rock of that name. The port is very shallow towards the sea, but gradually shelves deeper and deeper towards the shore, where the largest ships are moored close to the town. The accumulated filth from the shipping and of the inhabitants is precipitated into this deep water, whence it cannot be removed as is usual in other ports, by the washing of the waves, owing to the abovementioned unfavourable conformation of the bottom; the water of course is black, and constantly bubbling. Therefore, when the east wind blows from the other side of the rock, it is not felt in the town, but its violence is such, as to shut in the atmosphere of the city completely, and prevent its very necessary renewal. As a proof of this, during the continuance of this wind, the bay is perfectly tranquil, and unruffled, while at the distance of two miles, the waves abruptly are white with foam, and as if agitated by a tempest. This wind sometimes lasts forty days, never less than four; and when any disease appears, it is felt by all on the inner side of the rock, from the foot to the airy summit.

The city of Cadiz is built on a rock, surrounded by the sea: the streets are narrow and confined; the houses have only courts, and the whole city is traversed by sewers, which are cleansed by the tides. When the east or Levant wind blows, the water is carried off from the port, the tides are lowered, and can no longer wash the filth from the sewers. Sometimes in the greatest heats of summer, this violent wind* blows fifteen or twenty-one days without intermission, and pestiferous gases from the whole filth of the city are continually emitted through the air-holes of the sewers.—Is there any need, in either of these cases, for an imported contagion, to explain the generation of yellow fever?

* This is the same as the *Siroco*, a wind renowned for blowing pestilence. Its effects on the human frame are excessively debilitating.

No Malignant Fever (or Yellow Fever) was introduced into New-York, by contagion.

TO prove the introduction of Yellow Fever, into our city, by human contagion, it would be necessary to substantiate the arrival of some individual affected with that disease in a defined spot, or that the clothing of some dead person had been brought within its boundaries; and that these premises should be well ascertained under satisfactory examination, by impartial and competent judges. I say *human contagion*, whether *secreted in* or *excreted from* the human body, to exclude two modes of imported foreign contagion, equally irrelevant to the present instance: the one, that of a foul or unclean vessel from a long voyage, or a warm country, which, as both contending parties admit, is capable of creating the disease in any person who may be put in contact with its effluvia. But this mode is absolutely inadmissible in the present instance. The second is that of any corruptible and damaged article of produce, such as *coffee*, *hides*, *cotton*, &c.—being in store as kept for trade or use; and even then such materials should be classed with our own ordinary causes of domestic yellow fever. As far as my means of inquiry and information have extended, I have not been put in possession of any corresponding fact or circumstance, worthy of the least attention, and I have been the more desirous of obtaining the same, as for the success of any inquiry, no greater claim to public confidence could be wished for, than the most strict impartiality.

The primordial vehicle of contagion having thus been satisfactorily ascertained, it would be necessary to show its succeeding progress among many individuals, who, by casual or necessary approaches, or by contact, subsequently received the disease, and, also, that each certainly communicated it to others. That were the result to be expected from a subtle and virulent poi-

son brought among us from distant countries; such a one as has, frequently, been traced, by fever-importing partisans, to dirty clothes, and to a bag of coffee, &c. Were this a veritable consequence, it would not, certainly, have failed in the cases of Messrs. John and George Van Nest, the first victims of *yellow fever*, reported to the Board of Health on the 5th of September. These youths, who daily resorted to the store at No. 114, Pearl-Street, and who died in the house of Abraham Van Nest in William-Street, No. 13, the one on the morning of the 5th, the other on the 6th of the same month, must, by that rule, have become an abundant source of contagion to the numerous relations, friends, and neighbours, attending on them and the family. Their two physicians can testify, indeed, that they have, from obvious and proper motives, been obliged, from day to day, to remonstrate against such numerous callings and goings of visiters to and from the sick rooms; that several male and female persons, also, have successively relieved each other, during night, at the bed-side of the much beloved patients. This exposure of many people was increased by that of citizens, who felt anxious at that time, and suspected that the young Van Nests were the first victims of an existing pestilence. Never was the house of a respectable citizen, containing two infectious and contagious cases, more exposed to diffuse a pestilence all over the island, if there had been any such a thing existing as contagion; yet we find, that not one single subsequent case can any way be traced to those of the Van Nests. Was that a contagion imported from distant regions? As for Mrs. Brower, the nurse of the two unfortunate young gentlemen, who was reported as sick with yellow fever on the 17th of September, I should not have any objection, for the sake of argument, to trace her case to these *infecting* subjects, for, it will be explained hereafter. Yet, from the same motive, I cannot, with consistency, admit it as such.

There have been other equally infectious houses or cases, and as much so, as if the whole of the inhabitants of the Lazaretto had been let loose in our city: Mrs.

Kavanaugh's house, where, after her death, four successive cases of malignant fever took place, has been an uncommonly frequented resort of friends and visiters, and where, according to the customs of the Irish nation, and to the rites of the Roman Catholic profession, there has been a repetition of night wakes, administrations of the sacraments, and crowded meetings of friends and religious people. The same exposure was shortly after renewed at John Davis's residence, 72, Front-Street, and especially at the young M'Kay's, 21, Old Slip. This family had an extensive circle of customers and friends. My private practice has offered other remarkable preservations; that of a sister who nursed, and slept in the same bed with a victim of yellow fever, Miss Brown, in the First Avenue; that of the family of Mr. Caleb Sutton, a carman, Corlear's Hook, composed of five persons, in a house tenanted by the same number; that of Sagerson, with his wife and children, in a house where many families lived, and where there was a retail grocery and liquor shop below. We must, then, forbear to look for other instances, during the season, to prove the incommunicability of the malignant fever; wishing only to mention, that the daily and authentic reports of the Board of Health did not acknowledge a single case of contagious yellow fever. As to the case of Mrs. Russel, in Church-Street, which was stated by Dr. Jacob Dyckman, and was lately exhibited as derived from contagion, it must remain included with that of Mrs. Brower, as we will explain hereafter; both being cases of immersion in infected atmosphere, which absolutely differs from contagion.

We come to some more important objections. The first is the explanation offered, of the rare, and never truly exemplified contagion, among us, of a disease supposed to be imported from tropical regions, namely: "that the yellow fever proves rarely contagious in pure air, &c." This *relieving* clause, if true, should then have been conscientiously used to diminish as much as possible of the expenses and alarm of our fellow-citizens, and to aid them in comparing and judging, by

defining what is pure or impure air. Commerce would not, then, be interrupted by quarantine laws, and no restrictions would be necessary in towns, streets. stores, and places where pure air predominates and it would nearly reduce the question between contagionists and non-contagionists, to what the latter perfectly agree—1stly, to correct nuisances; 2dly, to avoid approaching infected ships. Instead of such an explanation, we find, that our alarmists inconsistently trace the disease to foreign origin, although imported through the pure air of the seas, and will have it communicable even by inanimate substances, goods, and clothes, to which they suppose it adheres; this they do rather than acknowledge its possible formation, amongst us, from putrid exhalations. We must, therefore, mistrust the useless *modification*, as Dr. Chisholm consistently rejected it, from the American professor who firs proposed it. The fact is, that the proposition is *false*: it can do no good practically, and can only serve the purpose of accommodating an erroneous datum against experimental inferences of non-contagion. I say *false*, because the ambient air of a subject diseased with yellow fever cannot be pure. especially when confined in a room or in a bed. Each instant of the existence of the patient contaminates the air he breathes, and every thing he touches. If there is no pure air about him, or if, in other words, he is essentially a mass of contagion, who could hope to approach or to touch him through the medium of pure air? How could it be possible to protect a by-stander, or a person in contact, against the power of contagion? The word *contagion* must, therefore, be totally erased. Another proof of the necessity of its rejection I derive from the variety of symptoms, and diagnoses, which really constitute this Protean disease. *Contagious* matter is that, which has the power or attribute of creating one and the same sort of complaint, from the fomes of which it has been derived. Reasoning by analogy from other contagious complaints, it must constitute three necessary conditions; one is, to indicate in what vehicle it can be contained; the second, in what mode it is to be receiv-

ed, and the last, is to produce, in a certain defined space of time, a disease perfectly similar to, or of the same defined form and symptoms, as that from which it originated; these required characteristics are perfectly demonstrable in *syphilis*, in the *small-pox*, *rubeola* or *measles*, in *scarlatina*, in *herpes*, or *itch*, and, like cutaneous eruptons, in the *cow-pox*, in hydrophobic *canine madness*, &c. each one according to its nature. The evolutions of tages or symptoms have been so far investigated by experience as to afford mankind effectual means of prevention, except when the columns of air, now and then transport the contagious elements, and even then, anultimate removal of the danger can be devised and obtained. Now, to any reflecting man, we will prove that neither of the three conditions required to constitute contagious yellow fever, have yet been realized. Itspoison or venom has not been found in the blood, in the lymph, in the bile, in the excrements, nor in the mater of black-vomit. Records of repeated experiments are well known to physicians, and need not be relatedin this abridged exposition. Nor did the late Professo Valli* consistently prove that it existed in the cutanous perspirable matter; *a minori ad majus non valet conequentia.*

The partians of contagion, also, place it in so many material objects of transportation, such as wood, sails, rigging, produce of any kind, dry goods and clothing, that,from hunan contagion, they transform it into something more probably like metallic or chemical fumes, say the oxygenated azotic gas, capable of operating great changes on the human body. This might do, indeed, if, instead of transporting it free, it was confined in a bottle! But, we come to the last attribute of contagion, thatof generating a disease *sui generis*, and always marked by the same characteristic symptoms:

* The renowned Dr. Valli hoped to prove that contagion existed in the perspirable matter exhaled through the skin, and therefore resolved to putthe dirty shirt of a recently expired sailor on his own body. In performing this experiment, in a state of already deranged mind, the Italian professor had taken it for granted, that he could not receive the yellow fever in the impure air of the city of Havana, and that he surely would take it, in his own way, and could afterwards cure himself; in this last result he proved as unfortunate as in the first!

That this is not the case, we have evidently ascertained.

Mr. Pinckard, of England, who had great experience of the symptoms of this fever in the West Indies, has observed, that "yellow fever exhibited such perpetual instability, and varied so incessantly in its character, that he could not discover any one symptom to be decidedly diagnostic, and hence he was led into an opinion that the yellow fever, so called, is not a distinct or specific disease, but merely an aggravated degree of common remittent or bilious fever of hot climates, rendered irregular in form, and augmented in malignancy, from appearing in subjects unaccustomed to the climate."* Dr. Rush, after many years of observation, had been obliged to confess that every succeeding prevalence exhibited peculiar differences in the character of that disease, and that he was obliged to modify or alter a former approved mode of treatment.

There is no European nor American observer on this subject, but his correct statement of this disease, in different times, seasons and places, or on a different theatre, must differ from that of others. Among an immense collection of testimony, we find that yellow fever has been a *sthenic* and an *asthenic* disease: it had much of the first character in Philadelphia in '93 and '97: Two professional men, yet living, were bled, one 21, the other 17 times. This inflammatory disposition of the subjects was much abated in '98 and '99, when patients could be cured without bleeding; but the sthenic character reappeared in 1803. It is also remarkable that the yellow fever of Cadiz, in 1801, which was of the American stamp and breed, according to the contagionists of that country, was very different in nature and type, for, it was universally asthenic, and became more surely fatal, by venesection. From these primordial influencing changes, it may easily be inferred how various the symptoms

* Father Labat, a man of great genius, a famous traveller in and through the tropical regions of America, one hundred years ago made the same observation. "This fever," said he, "varies in its symptoms, as much as the constitutions of the persons who take it." He had himself suffered several attacks of it.

and determinations or diagnoses must afterwards be. The tumult of the attack is sometimes in the arterial system or in the brain; further, it is in the alimentary canal, and in another in the nervous system, for I have seen yellow fever ushered in by convulsions, by epilepsy, and by St. Vitus' dance. But still, more strange to say, the disease can evolve itself similarly to fever and ague or intermittent fever, to remitting bilious fever, and to inflammatory continued fever: again, it sometimes follows the Hippocratic periods in relation to crisis, and sometimes runs along three or even five days, without the least perception of pain or uneasiness by the patient, who has not been obliged to interrupt his occupations, and who rapidly arrives at his death without any warning. Black vomit, and yellowness of the skin, are, by no means, such predominating symptoms, as to be required to constitute yellow fever. Vomiting of blood or of dark bile, or cholera morbus, are frequent substitutes to *vomito pietro;* petechiæ, gangrenous, blue, purple and black spots, have often replaced the yellow colour. This is a feeble, but faithful picture of the contrasting characters and variable signs of yellow fever, which are so multiplied and so changeable, that they cannot be said to be the result of the same specific contagion.

MALIGNANT FEVERS, AND YELLOW FEVER, ARE PRODUCED BY IMPURE AND DELETERIOUS EXHALATIONS FROM PUTRID SUBSTANCES; OR BY ANY OTHER MIASMATIC CAUSE, VITIATING THE ATMOSPHERE.

THREE active causes, principally, which are daily falling under the observation of our senses, may vitiate the atmosphere in which we breathe, or that part of it, at least, in which we usually remain, or where we keep our ordinary habitations. These causes are, *heat* and *moisture*, exciting a putrid fermentation in the soil, or in accumulated *putrescible materials* under or about us. To these well known agencies, in the age in which we live, we generally resort to trace various dis-

eases incident to human nature, fever and agues, or intermittent fevers, also all sorts of typhus, and several other kinds of pernicious fevers, &c. and it is rather a departure from the dictates of reason, that we should discard the application to this disease, of the laws of nature in other diseases, merely alleging as a reason, that being more fatal, it should be accounted for by more incomprehensible and undefined causes, such as, that of foreign contagion; but, for the sake of argument, let that hypothesis be admitted, and let us reflect a moment; that belief will throw its supporters into the dilemma of concluding, that the poison of the plague, or the yellow fever, is imperishable, or that in certain circumstances it can be regenerated. Now, the first position is untenable, because, long periods of time have elapsed, without plague, or yellow fever, in the Mediterranean countries or in the American continent and islands. They must then have been regenerated under some circumstances of putrid fermentation; the contagionists, therefore, implicitly admit the same laws of nature, which they explicitly disbelieve and oppose. Now, *ab actu valet consequentia;* why should not the yellow fever be engendered here, under similar circumstances, as it has been in Bulam, in Grenada, in Vera-Cruz, and in New-Orleans? We see no difference in consequences, but that of a more intensely malignant disease, or of more frequent returns of it, in one place, than in another. We find, in fact, that *heat*, the first agent of pestilence and yellow fever, has surpassed, this year, in the city of New-York, that of many former summers, in intensity and continuance. This cause alone, however, could not have been very prejudicial to the public health. The bills of mortality did considerably increase during the two first weeks of August, owing to the bowel complaints of children, and dysentery among adults. and a few sudden deaths or undefined complaints; but the number of deaths have decreased during the last part of the same month. Our prolonged state of health was a great subject of congratulation, while our neighbours of Philadelphia, of New-Haven and of Boston, seemed threat-

ened with a visitation, which during 14 years had never appeared in the northern ports or inland towns of those states. The same had already left harbingers of future ravages in the ill-fated city of Baltimore.

We can account for the blessing of our long continued health, by two circumstances; viz. the numerous improvements which, of late years, have been introduced into our city; such as the replacing of a vast number of old and decayed frame buildings by brick stores and dwelling houses; the lengthening of West and South Streets; the destruction of many old, extensive wharves, the demolition of entire blocks, and the widening of narrow streets for the free admission of a necessary ventilation. The second cause of the continuation of public health, is the long and remarkable drought in our city and island during the whole summer; this drought destroyed the pastures, and greatly diminished our usual share of culinary and ornamental vegetation. Large and populous cities are, however, healthier with excessive and dry heat: had we been often refreshed by rains and showers, a calamitously sickly time might with probability have been expected in New-York, on account of the many wharves and docks which ought to be corrected, of the parcels of lots made or raised with putrescible materials under a number of old buildings, which remain to be improved, and the narrow streets or lanes which require ventilation.

Old Slip, as it is called, does not appear to be as bad as many others in the upper range on the East River, but its situation is more southerly, and it is closed against N. and N. W. winds by the higher adjacent streets. It is situated at the lower end of a space, anciently called *Rotten-Row*, where long and contested claims between the Corporation and the estates of some private individuals, prevented the ordinary improvements, which might have purified or renewed the ground. This place has always been the common receptacle of the whole filth of the city. The two narrow lanes, *Governeur's* and *Jones's*, afford an exemplification of the unhealthy disposition of the streets. It may be safely presumed, that the soil in this vicinity is very

impure, or composed of perishing and fermenting materials. The slip is shallow, and its sides, like many others, are composed of piles of wood, thick, uncovered, and now rotten, wormeaten, and coated with black mud; and it is throughout the receptacle of animal exuviæ and decayed matter, emitting in warm weather an offensive smell, and, no doubt, also, deleterious miasmata. A sewer empties into this slip, which originates from a private house or houses. How much filth this may contain and discharge, and in what state it may be in its course from Sloat Lane, I have not been able to ascertain, but be it more or less, it is a nuisance near to the surface of the ground. The middle square, or block of houses on the west side of the slip, between Front and Water Streets, on a depth of upwards of 200 feet, and a breadth of 160 feet, is mostly composed of old houses, and many are of wood and decayed; those on the front have no yards, and no ventilation, except from the slip; in fine, in the preceding years of 1798 and 1803, the yellow fever broke out in that neighbourhood, and was remarkably severe in it. It will be seen, by the annexed diagram, that in the vicinity of Old Slip, out of 57 cases, the enormous proportion of 34 or 35 originated from that single block, which, if it had not been absolutely cleared of its inhabitants at an early period of the month of September, would have become a shocking theatre of pestilential devastation. Ten persons, out of the number of 83 sent to Fort Richmond, the greater part from that block, shortly after sickened with the malignant fever, and three of them died in the Marine Hospital. But, before we proceed any farther in the enumeration of facts, and of their just application to the true cause of this calamity, we should not listen to the cavilling remarks or ill-judged pretexts of isolated causes of contagion as arguments alleged *à posteriori* to overthrow fundamental truths; let us, however, examine an objection which we think requires a clear explanation. It may be said, for instance, that if such an operation of the causes we have pointed out, (*heat* and *moisture*, on a great quantity of fermentable mate-

rials,) had existed in the slip and vicinity during nearly three months of an excessively warm summer, we would have often, and long before, during the season, heard some proofs of its effects, and witnessed the presence of a pernicious disease in that neighbourhood; but this not having been the case, some other cause, such as that of a *contagious* introduced poison, must have concurred to produce it, at the late period of its formation. We answer, that in the operation of the laws of nature, which requires the coincidence of several agents and causes, we must attend particularly to the various impulsions and interruptions which they may receive from casual circumstances, retarding one single combination, or the ultimate effect they are to produce. A ship, for instance, loaded with provisions and cotton, may be said to contain the most dangerous elements for the creation of pestilential disease; yet, she crosses the ocean without sickness, having always been dry and tight. On the other hand, suppose she has weathered a terrible storm, immersed her provisions and cargo in salt water, and has afterwards been exposed to a continuation of hot weather, she, surely, will not escape pestilence. There are, also, various incidental causes destroying a *fomes* of infection, which may be better explained in, and applied to, the late and partial occurrence of malignant fever in New-York. The following concise exposition of the laws and nature of deleterious and pestilential miasmata, may, we hope, make our subject better understood, and set the objection at rest.

1st. Heat at 95° and upwards, which is rarely experienced, is, in various ways, destructive of human life, and rapidly devours or destroys those putrescible materials which may engender pestilence; from 85° to 90°, if aided by moisture, it becomes a powerful agent of putrid fermentation, yet it then rapidly absorbs impure miasmata, and dilutes them to a harmless proportion. It is observed in the Levant, that a plague prevailing to a great height, is always checked by excessively warm weather. With little or no moisture, great heats are not more operative than they would be at a lesser de-

gree, because caloric being extremely diffusible, is longer retained by humid substances than by dry bodies. The city of New-York, it is well known, has been refreshed by very few showers or rains during the month of August; and the last took place on the 28th.

2dly. Moisture continued without heat, and at a temperature not above 66° or 70°, is productive of marsh miasmata, and of fever and agues; but with occasional stronger heats, it aggravates fevers of the intermittent or remittent type and form, also exanthematous, and, somewhat, scorbutic fevers, which are well known to have been endemic and frequently very pestilential in *Zealand*, one of the United Provinces.

3dly. Pernicious gases, arising from putrid fermentation, can, by winds, be dispersed before they adulterate the lower orbit of the atmosphere, in which men breathe. They may also be carried to distant spots, and fatally affect unaware and unguarded victims. Hence, the repeated instances of people receiving the prevailing disorder, at a distance from the infected spot, and even in ventilated or healthy situations. This may account for the yellow fever in 1798, in the most elevated part of Portsmouth, called Churchill; and in the city of Medina Sidonia on a high site, on the declivity of a mountain, in Andalusia, below which there are large swamps and ponds.

4thly. Poisonous vapours, from putrid fermentation, are well known, by chemists, to be specifically heavier than atmospheric air; not so much so, however, as fixed air, or carbonic acid gas, another deadly aërial poison; but they can scarcely arise above the ordinary height of human habitations. In Turkey and Egypt, the inhabitants instinctively run from the plague to the tops of their houses, where they are sure to enjoy a pure air.

5thly. Cold weather suspends the process of putrid fermentation, until it can be renewed by a succeeding warm temperature. But that of the freezing point destroys it absolutely, and it cannot be renewed, but by the long operation of heat and moisture at the future annual period of their return; yet in places of the

same description, many years have sometimes elapsed before the putrid fermentation was renewed, although, once during three successive summers, it broke out on the river's side, at Philadelphia; those were 1797, '98, and '99.

6thly. Infecting marsh miasmata have a great attraction for moisture, and pure water will readily absorb them. If, during warm weather, and in an impure atmosphere, after having refreshed yourself with a draught of cold water from the well, you let some stand, in a pitcher for half an hour, exposed to the external air, it will contract an unpleasant taste and fetid smell, besides growing warm. Fresh water, taken at night by your bed-side, will be found very unpleasant to your taste in the morning. This great attraction of moisture for impure effluvia is illustrated by the singular preservation of the water carriers in Constantinople, who are said never to take the plague. It, also, proves, that our respiratory organs, from the mouth to the inmost bronchiæ, must be very attractive and retentive surfaces for any floating aërial poison, especially by exposure to the damp night air, wholly saturated with infected moisture.

7thly. Infectious vapours or gases are always invisible, except when they are saturated with electrical fluid, or with phosphorus; they then become visible at night, or in the dark, as is the lambent light on high masts and rigging, on board ships, &c. called the *Jack o'lantern*, or as the churchyard lights, so often observed and noticed as earthly meteors. In the first of these cases their specific gravity becomes less than that of the atmospheric air; they rise, and they are not dangerous; in the other, they form something like a fluid crystal in the water, or in putrefied animal and vegetable substances, especially in fish bones and rotten wood, and the same combination gives probably the sparkling to those insects called fire flies, *blatta*, *lampyris noctiluca*. Of these three compounds, the results from putrid fermentation, we could immediately present a sufficient analysis, were it not taking too much space and time from our proposed subject.

We leave to the reader, the offered opportunity of comparing the laws and principles, herein stated, of deleterious and pestilential miasmata and their inferences, in application, against the last objection, to any home-engendered form of malignant or yellow fevers.

Of the measures adopted by the Board of Health, to arrest the progress of the Malignant Yellow Fever.

To guard against all possible introductions of *malignant*, *yellow*, *pestilential*, or *infectious fever*, is the defined intention of our statutes; and great powers are committed to the Board of Health, concurrently, also, to the Commissioners of the Health Office, for the discharge of that important trust;—next is that of enforcing internal cleanliness, and the suppression of causes of a local nature that are productive of impure air, and are able, eventually, to generate infectious fevers. At this period of time, after a long experience of the inefficacy of our quarantine laws during warm seasons, for the prevention of repeated returns of yellow fever in the populous cities of the Union on the seaboard, it must have become a matter of doubt, to many of our observing inhabitants, whether a fever which has so frequently occurred at the end of summer, oftener and sooner in southern parts than in the northern, which has been differently propagated according to circumstances of season, and so particularly marked by its primitive formation in low, unhealthy and unclean populous districts, was not under the principal agency of domestic causes. With these advancing steps, from progressive experience towards correct inferences, which have been supported by a great number of philosophers and physicians in this Union, and which no two public scientific bodies have ever officially contradicted, during twenty years of observation, it might have been expected that our Board of Health in 1819, would be as partially guided by

the doctrine of the domestic origin of yellow fever, as ancient institutions of the kind were strenuously, and almost exclusively under the dictates of the opposite belief (that of imported contagion). But this has not been the case; they have most scrupulously obeyed the intentions of the statute. In their various communications to the public, they have abstained from matters of debate and controversies, the different views of which could not at present alleviate a threatening calamity; and equally guarding against all possible danger, have maintained a strict line of impartiality: first, in closing all the possible avenues, by land or by sea, of any importable or contagious disease: secondly, by interrupting the communication of the same, from infected persons to the healthy population: thirdly, by restraining the effects of any defined source or limits of infection; and lastly, by collecting impartial and authentic documents of the origin or formation of every case occurring during the epidemical period.

The channel of foreign communication has, in former years, established the belief that we derived our autumnal epidemics of yellow fever from the West Indies, and other tropical regions.

However justifiable the framers of our laws have been to guard against infectious diseases, which foul ships and damaged goods have so often proved to be transmissible to healthy people within the sphere of their approaches during the seasons of exhalation, it is to be regretted, in a commercial point of view, that they predicated their statutes on the doctrine of human contagion propagating the yellow fever; for the same principle has immediately been assumed by foreign nations and governments with whom we are in constant intercourse, and who have long ago adopted quarantine regulations against the plague. But far from absolving our country from the stain of generating pestilential diseases, which we wished to inculcate to all the world, every recurrence of yellow fever in the United States, has strengthened among foreign nations the belief that yellow fever was an American disease, and not only an endemic of the West Indies, but also of the United States. To

these they have traced their recent instances of the same epidemic, forgetting thereby that malignant fevers, quite distinct from the plague, and of the same form as the yellow fever, have from time immemorial, and even during the flourishing ages of the Great Republics, ravaged frequently all the Mediterranean states down to the two last centuries, in the annals of which we find many calamitous occurrences of yellow fever, principally in Cadiz, in Leghorn, and other Italian ports. Furthermore, quarantine laws and restrictions have been retaliated against us, not only in the European states, but also in the West Indian commercial ports, where endemial malignant fevers devour the European and American population, and are never arrested by the beneficial temperature of our winters. If these appear to us prodigious errors, and much to be lamented, let us reflect for a moment that they are the result of the doctrine of human contagion in yellow fever, and to the same we contribute ourselves, in as much as we have favoured its prevailing sway.

It is remarkable, that in every preceding instance of yellow fever in this or the other parts of the United States, within a period of 27 years, the partisans of importation have never failed to designate some ship from tropical parts as the source or vehicle of contagion. That the yellow fever which has this year appeared on board of several vessels at the quarantine ground, has not been imported from thence to the city, we can, from recapitulated events, demonstrate, and satisfactorily prove to any candid inquirer.

Of all the vessels arrived at quarantine from suspected quarters, I find but a few to which the foul aspersion may be traced: the first, is the French ship *La Florestine*, from St. Pierre la Martinique, arrived at the quarantine ground on the 24th of July; the second, the ship *Morning Star*, from New Orleans, on the 2d of August; and the third, the brig *Eliza*, captain Topper, from Charleston, on the 12th of August. Any subsequent arrivals, with or without sickness on board, we shall not take notice of, as they were reported at a later date. The *Florestine* entered the

East River on the 24th of August, after performing thirty days quarantine, but she was ordered to remain in the stream; her crew had been reported to the Board of Health, as being in a most healthy condition; the other vessels were released from the Lazaretto at a period later than that at which the sickness broke out in New-York. Should the searchers after contagion still trace it to the French ship after her quarantine and repeated purifications, we must then conclude that our health laws and regulations are inefficient, or that no period of time can be assigned for the extinction of a poison transmissible through the air, as easily as the operations of thought.

But contagion has been referred by some severe explorators to Baltimore packets, which generally take their stand in Old Slip. On the 28th of August, I saw but one there; this was the schooner *Resolve*, Watrous master; she was not then loaded, and a week after she was obliged, agreeably to the orders of the Board of Health, to take her station in the North River, at pier No. 10, where she remained till the middle of September, without leaving there any trace of infection. The other vessels from Baltimore had, probably, left it when no yellow fever prevailed; as, we are authentically informed, that although the yellow fever broke out at Fell's Point, in the middle of July, it produced no infection in the city at Smith's dock, but in the latter end of July; and there it was all at once stayed, until the end of September, and during two months. A last observation on this subject may, above all matters of scrupulous inquiry, evince the efficiency of our quarantine regulations in relation to commercial intercourse. There is but one well known spot of communication with our Lazaretto and neighbouring parts; that is Whitehall, where boats, sloops, and steam-boats are regularly, and at stated days and hours, constantly going and coming for public and private business. The neighbourhood of that place is equally populous and accommodating to travellers, with houses of resort, of lodgings and for refreshments, which are exposed to contact and communication with every infected per-

son from quarantine. How then has it happened, (such a thing is unheard of,) that not a case of yellow fever has been imported there from the Lazaretto?

A second object to be kept in view, by the guardians of the public health, was that, as soon as the disease was recognised, the infected persons should be separated from the healthy population, and that the inhabitants themselves might be removed from whatsoever infectious spot or vicinity, observation should point out. Humanity no doubt indicated these measures, not only for the preservation of lives against presumed pestilential contagion, but also against any suspected domestic source of disease; it was, moreover, a truly analytical method, for exploring which might be the most preponderating cause of yellow fever, the human contagion from person to person, or a vitiated atmosphere in certain defined places. Three days after the first declaration of two cases existing in the house of Mr. Abraham Van Nest, and the subsequent discovery that was made of four or five more, within the limits of blocks contiguous to Old Slip, the Board of Health boldly published the following resolution.

"*Resolved*, That the inhabitants of that part of the city situate within the following boundaries, to wit, beginning at the foot of pier No. 8, East River, thence running on the easterly side of the same pier and the adjoining slip to the corner of Pearl Street, thence up Pearl Street to the west side of Wall Street, thence down Wall Street to the East River, be and are hereby recommended to remove, and that all vessels be removed from within the bounds aforesaid."

Great murmurs manifested, at that time, the dissatisfaction of the public, who were not aware of the existing danger. An affecting and instructive address from the guardians of public health was shortly after submitted to their fellow-citizens, eloquently written, and satisfactory as to the existence of imminent danger to their lives. "It was in the same spot," they said, "where the fatal summer of 1798 had commenced its ravages, by a scourge which now seemed to be gradually diffusing

itself. It was their duty to endeavour to extirpate it in its infancy. They were not insensible of the inconveniences; public and private, which might result from their recommendation. By waiting till the progress of the disorder rendered the necessity of the step obvious to all, they might have avoided some odium; but they would ill have deserved the confidence reposed in them as guardians of the lives of their fellow-citizens, had they, through dread of personal responsibility, slumbered at their post until the danger became imminent, and perhaps inevitable. Measures of precaution, when attended with present inconvenience, are always unpalatable, and they usually become more so, when most completely successful. It frequently happens that their failure is received as their best justification." With arguments so pressing, public discontent and mistrust were not removed, and twenty-four hours after, a numerous and respectable meeting of citizens was convened at the Tontine Coffee-House, to inquire and ascertain, whether any, and what sufficient reasons existed to induce the present alarm in the city respecting malignant fevers, &c. From this moment, the Board of Health has continued to accomplish the execution of their wholesome design. The poor who resided within the proscribed limits, to the number of about 150, were removed to Fort Richmond on Staten Island, for the ready use of which, the citizens of New-York are indebted to the governor and commissioners of fortifications. The sick, when practicable, were sent to Fort Stevens on Long Island, as liberally offered by Major Barron, Quarter Master of the United States. Every measure, besides, which experience has recommended, was employed to remove nuisances and purify those parts of the city where danger was most to be apprehended. Other subsidiary regulations were pursued by the Board of Health and by the Common Council, for emptying the cellars that were filled with water by the violent storm and unusual tides which occurred on the 21st and 22d of September; for preventing the sale of foul and infected clothing, and for various other purposes. But, one principally,

we should not omit mentioning, for securing the district from depredation, which, on the name and by the authority of the Common Council, provided watchmen and a double guard employed in the safe keeping of an immense property within the proscribed limits. Public authority was pledged to afford them medical aid in case of sickness, and a liberal continuation of their pay during the time in which they might incur the common danger for the public good.

The last duty, which the guardians of the public health have discharged with the most scrupulous attention, was a critical examination, and inquiry into the nature and circumstances of the origin of each case of sickness reported to them. They were thereby enabled to decide on the propriety of removing, when practicable, persons who, in the acceptation of contagion, had become dangerous to their fellow-citizens. It was also from an early conviction that the seeds of disease were apparently disseminated in a certain defined space of ground, that they, so timely and with such certitude, pointed out the danger to the inhabitants. It has seldom rested with one physician to determine on the nature of a case; the resident physician has always exercised, with diligence and propriety, the right of investigating the symptoms as well as any important circumstances of the disease. Errors have seldom taken place among gentlemen of opposite theories; if a few of them have been hastily promulgated, they were promptly corrected in the public opinion by the concurring wisdom and harmony of the members of the Board of Health and of their officers, none of whom have been known or heard to indulge any discordant opinion, surmise, and questions, distinct entirely from their important duty, and favouring the ascendency of private feelings and prejudices. And thus the task of the Board of Health, of exploring any possible source of the disease, could not fail being attended with success. It has evidently been ascertained, that no case of yellow fever has originated in any part of the city of New-York, except in the spot or vicinity of Old Slip, of which a correct map is subjoined. Nor has any satisfactory evidence

been offered of instances of sickness being traced to the agency of human contagion. I must here remark, no doubt, that some trouble has been taken to substantiate two cases of nurses, to whom the disease had been communicated by their patients. Were we not satisfied of the correct statement, which I have already published, of the case of Mrs. Brower; and were we obliged implicitly to judge that of Sarah Russel as a real case of yellow fever, we would reply, that we have never denied that, in certain circumstances, this malignant fever might be rendered as infectious in confined places, as typhus, hospital, camp, and jail fevers, and even as the child-bed fever has been in the lying-in hospitals of London and Paris. How much these maladies have prevailed, and how long they have been protracted in the respective abodes of impure and infectious atmosphere, every medical philosopher ought to be informed. Nurses receive and carry away all excrementitious discharges; they incessantly breathe in the confinement of a room, and at a bed-side, as much foul air as is necessary, no doubt, to excite the same febrile complaint, unless they are favoured by a healthy exposure, and by ventilation. It has been remarked, that none of the nurses at the Bellevue Hospital, in 1805, and in the Marine Hospital on Staten Island, in this and many preceding years, have ever been infected, provided the malignant air of the city or other infected places was avoided.

Concluding Remarks on Local Nuisances,—on Quarantine Laws, and Shipping, and on the Board of Health.

Correction of nuisances.—I have advanced as an opinion, that had not the summer been a very dry season, we would have probably suffered a more general and uncontrollable epidemic. It has however been, with its excessive and continual heats, a proper test of the healthiness of the city and port of New-York, where, during summer, none of the diseases usually

experienced have materially affected the public health. We may, therefore, anticipate that with farther local improvements, this great emporium of commerce may become one of the healthiest in the world.

We have seen that a very morbid influence has reigned over *Old Slip* and its vicinity; that one block of houses contiguous to it had been in a greater proportion productive of malignant fever, and more by one half than what has occurred in the neighbourhood: This has not been the effect of contagion, or else it would have diffused its agency in a more equal and diffusible proportion. We must then conclude that, in addition to the low and unhealthy condition of Old Slip, some other causes are to be corrected in the block of houses to the west of it. And here I beg to be permitted to suggest, that the Board of Health should in future be authorized to cause many old and decayed buildings with their premises to be carefully examined, and if found so far injured by age, or deprived of ordinary ventilation and conveniences, as to be untenantable in point of wholesomeness and cleanliness, that they should *declare* the same not to be used or occupied, under a proportionate penalty to the owner, until sufficiently repaired, &c. It may be observed, indeed, that houses on lots so well situated for business and trade of every kind, are in general left in the most perishing condition, because they can always command a good rent. On the other hand, it would be no more than right, that the guardians of the public health should interdict such places or dwellings which may be rendered sickly, and become the abode of infection; just as admiralties and civilized governments, in all parts of the world, have the right of detaining in port any vessel that is found and declared to be *sea-unworthy*.

Quarantine laws, and shipping.—The principles of quarantine laws respecting vessels from suspected ports, should be regulated only by the healthy or unhealthy condition of their crews, and by the nature of their cargoes.

Crews of vessels from distant countries are certainly in-

jured by long quarantine detentions. And after confinement, a healthy crew require the enjoyment of the land influence, exercise and activity; or else in a state of rest, inactivity, discontent, and without work, a ship's company seldom fail experiencing diseases, before their quarantine has expired. On the other hand, should a ship be in a foul condition, it is evident that quarantine detention must aggravate the cause without even removing the effects. I conclude, therefore, that so much must be taken from the quarantine laws against the danger of human contagion, and so much be added against that of infection arising from foul ships and cargoes. A long experience in this or other Lazarettos of the United States, has proved that foul ships, after repeated purifications, when admitted into port, can still generate yellow fever, and disseminate its effects among the people of neighbouring habitations. Let us then infer, that no ship suspected to breed malignant fevers should be admitted into port; the inference of the case cannot be erroneous, if the nature of the cargo and occurrences at sea, are taken into proper consideration; by this it will be found, that no greater proof can exist of the foul state of the ballast of a ship, (admitting that the cargo is sound) than the spontaneous generation of yellow fever during the voyage, and which will still be more easily reproduced when the same vessel is in port, than when exposed to ventilation.

The Lazaretto regulations therefore for sickly crews, foul vessels and damaged cargoes, during the warm months of the year, must have for their principal objects, 1st, the prompt unloading of cargoes to be kept in stores, or to be sent in lighters to the city, if in a sound condition: 2dly, to ascertain the foul state of every vessel, to be either effectually corrected, or indefinitely detained, until all offensive filth collected between the ballast is removed.

The Board of Health.—My next and last observations are on the Board of Health, whose powers do not certainly seem adequate to the exigencies of a calamitous time, unless they are assisted by the authority of

the corporation, and by the concurrent good will of an intelligent community. An institution of this kind should also contain as many individuals of experience and scientific knowledge, as might silence the jarring of temporary prejudices or theories. It is not my intention to claim for professional men a preference in the composition of a Board of Health, to the beneficial wisdom and good sense of those who have this year so successfully discharged the trust committed to their care; but it were desirable that no incertitude should occur in the measures which may eventually become necessary, nor that the Board of Health might occasionally be obliged to resort to the opinions or advice of private individuals, who themselves may be subject to error. The operations of a Board of Health are also of such importance as to require secrecy for the good of the public, as well for the prevention of unnecessary alarms, in cases where danger can only be suspected. During the existence of an epidemic, private views and the interest of individuals afflicted with it, often makes it extremely unpleasant for them to become objects of observation and of danger to their fellow citizens. This natural impression has even frequently aggravated the danger of their lives, or erected an insurmountable barrier to their recovery. In fine, it has disposed others either to elude or to oppose necessary health regulations. But such momentous evils would never take place, were the deliberations of the Board of Health confidentially to be carried on, and in secrecy. I have seen the advantages of this reserved mode under one of the best organized Boards of Health, which is supposed to be that of Marseilles. The whole company of a ship infected with plague, were taken from a vessel laden with cotton, and transported into the Lazaretto hospital, where the greater part of them successively died; several labourers employed to ventilate the bales of cotton, afterwards became victims of the terrible disease, within the walls of the same institution, and contiguous to a city containing 120,000 inhabitants, without any body in it being apprized of

the sad event, neither preyed upon by alarm, nor by the suspension of their prosperous business; nor did

> ———"The sullen door,
> Yet uninfected, on its cautious hinge
> Fearing to turn, abhor society.
> Dependants, friends, relations, Love himself,
> Savaged by wo; forgot the tender tie,
> The sweet engagement of the feeling heart."

THE MALIGNANT OR YELLOW FEVER

IN BOSTON, 1819.

EXTRACT *from* WEEKLY REPORTS, *communicated to the Editors, by* Dr. WILLIAM INGALLS, *Professor of Anatomy and Surgery in Brown's University.*

"ON the day after the arrival of the ship Ten Brothers, viz. August 2d, I was requested to visit a seaman by the name of Bates Lincoln. I found him labouring under highly inflammatory symptoms. I was requested, at the same time, to visit another seaman, Mr. Hardy. On the next day I was desired to prescribe for another seaman by the name of Dillingham. These three all belonged to the ship Ten Brothers. In the evening of the day that Dillingham was taken, these three men embarked on board of a coaster for Provincetown, Cape-Cod. The prescription which was made for Bates Lincoln, procured, by the next day, a complete intermission of the fever; and directions were given him, to be used as circumstances might render it necessary. He recovered and returned to this place, in a few weeks.

"When I saw Hardy, he had already taken physic. I, however, prescribed on this and on the following day.—Dillingham had laboured under the disease for twenty-four hours, before the prescription was made. It was his misfortune to retire to his room, and lay all

night labouring under the disease, without making any one of the family acquainted with it; which delay rendered his case, as it would every other, much less likely to yield to the power of medicine.

"Lincoln adhered to my directions altogether. The other two seamen did not pursue the course I had prescribed.—They died with the black vomit, in about thirty hours after they arrived at the Cape.

"On the fourteenth, Mrs. M'Farland was attacked with great violence.—She recovered.

"On the fifteenth, Mr. Ezekiel Shattuck was seized with the fever in its most aggravated form. He recovered.

"On the same day Mr. M'Farland was taken. He died on the fifth day.—He suffered for the want of suitable accommodations, and the impossibility of procuring an additional nurse.

"On the sixteenth, Mrs. Bennett was taken sick. She recovered.

"On the same day Captain Eaton, inspector of customs, aged sixty-four, was seized with the symptoms of fever about an hour and a half previous to my receiving a call to attend him. He had taken a portion of jalap and calomel before I arrived: The effect of calomel, in a large majority of cases, I esteem to be highly deleterious. He died on the fifth day.

"On the seventeenth, Mrs. Fanby had a mild attack.—Afterwards, a sister, who lived with her had a mild form of the disease, and two children in the same family had it severely.—These four recovered.

"About this date, three of Mr. M'Farland's children became sick of the same disease.—They recovered.

"August twenty-fifth. Mr. Wenkall was taken with the fever, and was removed to Hospital Island on the third day.

"On the twenty-fourth, a son of Captain Dutch; on the twenty-eighth, Mr. Thatcher; and on the twenty-ninth, Messrs. Kimball and Rufus Shattuck were taken. In these, the symptoms were strongly characterized, and the disease very severe.—These gentlemen recovered.

"All these cases were distinctly traceable to direct communication with the ship Ten Brothers, or persons or things coming from the ship.—They were all attended by me.

"It appears to me that the Typhus Icterodes is as much subject to the control of medicine, as the Epidemic Peripneumony; and, with proper treatment, as many recover.

"For the last week, so far as my knowledge extends, the town has been almost exempt from fevers of a malignant nature.

"Although Mr. and Mrs. M'Farland, their three children, the two Messrs. Shattuck, Mrs. Bennett, Miss. Fanby, sister and two children, resided on Fort Hill, my opinion is that their sickness is attributable to a communication with the ship Ten Brothers, directly or indirectly.

"It likewise appears, no case has occurred beyond the time thought necessary by the Board of Health for a vessel to remain at quarantine. The fact is important, as it shows the term appointed for the quarantine is sufficiently long, and will exonerate the Board of Health and their physician, from censure for permitting the ship to come up, and discharge her cargo.

"It is also ascertained, I believe, to the satisfaction of those who have inquired into the subject, that the disease is not contagious. It seems, however, that the fomes of the disease may be found so concentrated, and active in certain situations, and under certain circumstances, that persons may become infected by exposure for a short time to the contaminated atmosphere. This point is very generally conceded, so far as it relates to infected ships and wearing apparel.

"I shall now, as I promised, give an account of those cases, that did not originate from the Ten Brothers.

"That the most of these which came under my immediate care, occurred on the south side of Fort Hill, cannot be denied: but it is by no means satisfactorily

decided, that the disease was generated there. In order to determine this point, we must understand the causes which pollute the atmosphere.

"We can say, I think, with safety, the decomposition of animal and vegetable matter, or the vapour arising from the stagnation of fresh water, do not alone beget the fomes of the yellow fever. So far as my limited knowledge of the history of this disease extends, it is always to be found in the vicinity of salt water. Hence we must look for some agent or principle, that is dependent for its existence on some modification of sea water.

"The intermittent fever arises from the influence of fresh water marsh miasmata, where of course there is an exhalation of a vapour saturated with vegetable matter, producing a morbid excitability, so that, upon the application of an exciting cause, a fever takes place. In a country where there is an abundance of narcotic plants and vegetable matter in a state of decomposition, the air becomes impregnated with a noxious principle, that prepares the system for a highly inflammatory bilious remitting fever. But when the temperature and state of the atmosphere are favourable for effecting a change upon sea water near the shore, and also upon animal and vegetable matter, then the fomes of yellow fever is engendered.

"The yellow fever is not generated at sea, nor far inland. We must therefore look for its productions, to causes existing on the sea-board.

"It seems to me much more probable, that, during a hurricane, an immense quantity of sea water is carried to a very great height in the air, where it is diffused over a vast space, and undergoes an alteration, by which a subtile principle is evolved, that gradually subsides to the ground, and produces the influenza, than that the same effect, as has been supposed by some philosophers, happens from a subtile matter thrown by volcanic eruptions to a great height, and diffused over the globe. If it be admitted, that in this way a noxious gas, effecting a great derangement of the functions, can be evolved, may we not infer, that a

chemical change may occur in sea water, which might alter the specific character of the bilious remittent, and produce the yellow fever?

"The causes which produce the greatest changes in nature, are simple. The narcotic effects of the exhilarating gas, applied in a moderate quantity for a considerable time, might occasion the most alarming disturbance in the functions. I have met recently with several cases of persons, who have suffered from symptoms arising from the influence of vegetable narcotics. The disease these destructive substances cause, has been severe, and overcome with difficulty. The symptoms were too well defined, to admit the possibility of a doubt respecting the nature of this disease, though it could not be learned that they had been exposed to any thing of a hurtful nature. Evacuants, epispastics, &c. were found to give the most effectual relief.

"Many symptoms of the malignant fever correspond with those arising from the use of articles of this class, and the method of cure is, in some respects, similar.

"These suggestions have often been with me the subject of contemplation and investigation, so far as opportunity has offered. I, however, submit them as crude observations, rather than as established facts. Notwithstanding, an extensive view of the whole subject, not only as to the causes, but as to the symptoms and remedies, affords some foundation for the belief, that there is one common principle, which gives the intermittent, remittent, and yellow fevers a generic character, and that their specific difference depends upon the operation of an additional agent."

P. S. A committee appointed by the Board of Health of the town of Boston, "to investigate and state all the facts relative to the ship *Ten Brothers*," which was by many believed to have imported the yellow fever from the coast of Africa, have, in pursuance of their duty, made a particular statement of the facts; which have been unanimously accepted. But it is too long for re-publication, and we can only give the concluding result.

"On a thorough examination (say they) into the nature, state and consequences of the sickness, proceeding from said ship, or her cargo, or articles on board her, this committee have no hesitation in stating, that, in their opinion, said ship on her arrival at the wharf in Boston, was a diseased ship; and that some of the articles that had been on board her during her voyage, had communicated disease to such persons whose habit of body rendered them prepared victims for malignant disorders; but whether this disease originated from the putrid corn, and condition of the ship, or from subtile poison imported in her from the sickly climes of Africa, it is difficult, and perhaps impossible, to determine."

MALIGNANT YELLOW FEVER

IN BALTIMORE.

EXTRACT *from a Letter of* P. CHATARD, M.D. *Member of the Medical Societies of Maryland, of Marseilles, &c. to the Editors, October* 19, 1819.

"BALTIMORE is not an unhealthy place: I have tried and experienced it during twenty years residence. The yellow fever, it is true, broke out, all at once, at *Smith's Dock*, towards the end of July; Read, Mott, Suhr, Swift, Wiryman, and others, were seized with the disorder and died. The above named persons had their counting houses in the place, or about the vicinity. What, then, must have been the effects of the alarm, I leave you to judge. After the death of those victims, the disease was stayed until the latter end of September, when it again broke out. Messrs. Parish and Jonathan Balderston were seized by it. On the other hand, the fever commenced raging at Fell's Point in the beginning of July, and it never ceased there, until the latter end of October.

"The singularity of its disappearance from *Smith's Dock* during two full months, is explained by the fact

of our Mayor having ordered a great quantity of lime to be strewed on the infectious and miasmatic ground. This neutralizing mode was renewed when the disease broke out there a second time. As for *Fell's Point*, which is separated from Baltimore, or the old city, by a stream of water called *Hartford Run*, it continued all the season very sickly, and was gradually deserted. The sick retired to various places in the country, and the poor were encamped on a high ground hardly a mile distant from the principal seat of the disease, but a portion of courageous or obstinate people remained there, as it were, to keep up the destructive scourge. The much greater proportion of the emigrants retired to the healthy parts of the city, but many having carried the seeds of the disease with them, sickened and died among their friends and relations, by whom they were kindly received, and to whom, in no instance, have we seen the pestilence communicated by them. This happy result, not only evidently settles the question of non-contagion, but it appears, on the other hand, that the epidemic existing at the Point, during three months, formed a focus which never exceeded seven or eight thousand square feet, and from it the atmosphere never transmitted farther its deleterious principles. This knowledge is precious, as it determines the nature of the danger to be within the infected limits only, and proves the inutility of a vigorous quarantine for healthy persons and sound goods, while the poison really to be dreaded is inherent to a foul ship, or damaged goods.

"If the yellow fever seems to be an endemic of many places in America, it must be owing to those intense heats, which, by the accession of moisture, can develope, from fermenting and putrifying substances, the infecting principle which constitutes yellow fever, for, a vessel which unites all these conditions can also be the cradle of the same. We do not know what that principle is, nor more, than that humidity or aqueous vapours are its vehicle, and caloric its diluting agent, and that it thus must reach the human system through the organs of respiration or through the skin. But its

infinitely variable effects or progress having, in many instances, been arrested by various and opposite remedies, exclusive methods have been suggested and recommended as the only curative; yet none can be much depended upon, and nothing is more difficult than to seize the real characters of yellow fever, except a physician has already been well acquainted with it. Nothing is more common than to meet with the following contrast. High fever; pains in the præcordia and throughout the limbs; great heat in the globe of the eyes; turgid red appearance of the conjunctiva; yet these symptoms are not pathognomonic of the yellow fever. On the other hand, you see cases of extreme prostration; a livid face, and expression of terror of death; a pulse sunk and nearly extinct; yet two such opposite states equally and rapidly prove fatal. In the first, the deleterious principle seems to hurry life to its exhaustion; in the last, it acts as a powerful narcotic, which more promptly than opium throws its victim into an everlasting sleep. More than once in that of 1800 and subsequent epidemics, I have seen persons entering into my office to request advice for some indisposition, and after retiring, they would fall and die at a short distance without hemorrhage or black vomit, the only symptoms which, according to some practitioners, are pathognomonic of yellow fever. These two contrary states of the same disease, must each require an appropriate system of treatment, and that, too, very quick: a delay of six hours would certainly disappoint the best physician.

" In this epidemic, I have seen, like in all others in Cape François, or in Baltimore, since 1797, that the afflicted would die on the third, fifth, and sometimes on the seventh day. One already named, whom I visited in consultation, expired as late as the eleventh day, and another on the fifteenth. This had suffered a hemorrhage from the gums during eight days. In this fever, epistaxis and vomiting have been frequent. The uniform treatment, by many, of bleeding and exhibiting calomel, did not prevent the fatality in the beginning of the epidemic; yet it is my duty to notice,

that without either, several practitioners have been successful in many instances. The only peculiar circumstance observed in our epidemic has been a great degree of intestinal torpor, and therefore it has been difficult to promote necessary alvine discharges. With this, of course, the irritation of the stomach has not predominated except in the last stage of fatal cases. The reverse has taken place in the case of Mr. H—— of the college of St. Mary. His attack of yellow fever was ushered in by the black vomit. I treated him successfully by purges and *theïform* sudorifics, taken very warm. Without assigning any formal preference to this mode of treatment, I must remark, that it has been successful with me in similar circumstances; it is better than repeated bleedings and salivation by calomel. As a crisis, mercurial salivation is not necessary; it renders the convalescence long and hazardous, from an increased and settled debility."

"P.S. Notwithstanding the principal occurrences of our epidemic have so evidently established as facts, 1stly: that it has been circumscribed at Fell's Point during the whole season; 2dly: that it broke out twice in the old city at *Smith's Dock*, and was happily checked once for two months; 3dly: that the deleterious atmosphere never extended beyond the infected limits; and, 4thly: that no instance of communicated contagion took place from those who had carried the seeds of the disease from a sickly section into a healthy one: notwithstanding all this, you will have heard that some pains have been taken to give currency and authority to three or four cases as having originated from the old city. On this respect, I know better, however. I said nothing, because I might have given offence without producing any public good. I always prefer to be silent when I am convinced that no more important end would be served but my own pride and opinion.

"*Baltimore, September 3d*, 1819."

MALIGNANT FEVER

In Charleston (S. C.) *during the Summer and Fall of* 1819.

WE have not been able to find nor obtain an historical account of the Epidemic in the capital of South Carolina. The Board of Health there have thought it proper at an early period to suppress their daily reports and bulletins of the public health; simply recommending to strangers to seek for their security in other climates and countries, as the prevailing distemper was evidently preying upon all those who were not natives of that State. From another and respectable quarter we are informed, that there has been good foundation for many physicians to doubt of this being the real yellow fever; and that a single practitioner could not discover more than three cases out of twenty-eight which were under his care, stamped with genuine symptoms of yellow fever. Our informer, on whose testimony we confidently rely, is much inclined to believe, that the prevailing disease was merely typhus gravior. Be it as it may, we will give, in the following Essay, from an experienced practitioner of that country, a novel and highly interesting view of the subject, as related to be an endemic disease.

"Of the various opinions and theories, which have at different times been offered to the public, on the subject of the YELLOW FEVER, there are none, it is generally admitted, which are at all satisfactory, either as to the nature or origin of the disease, or the proper mode of treating it. Its late ravages in most of our principal cities, and the probability of its frequent and even speedy recurrence among us, are considerations, which render it the incumbent duty of the practitioners of this country to use their most earnest efforts in the investigation of its true character, and the causes of its production, and to contribute to the common stock of information, any such results of their experience, as are at all calculated to throw the least light on these important points. Actuated

by this sentiment, the author of the following observations comes before the public with no object but that of serving it, and with no other pretensions, than those grounded upon experience. In treating the ensuing topics, he will aim at brevity and condensation, and will endeavour to free his language as much as possible from any of those medical technicalities, which might tend to embarrass the unprofessional reader.

"He will attempt to establish, in the first place, that the Yellow Fever is of domestic origin. It becomes necessary to do this, from the late conduct of the Boards of Health in Baltimore, New-York, and Philadelphia, and of some of the physicians in those places, which has contributed, in a great degree, to revive the doctrine of contagion; an opinion which, amongst other objections that may be urged against it, has the disadvantage of tending to produce a relaxation of those police regulations, so necessary to the health of our cities, and to put the people of this country off their guard, against what I think must, on examination, be considered as the real sources of the disease. Many of those who once entertained a belief in the domestic origin of the disease, have been lately somewhat shaken in this conviction, by finding that we have often been exempt from it, during those seasons, when the causes which are ordinarily supposed to be most concerned in its production, (such as the effluvia from docks, drains, sinks, &c. &c.) have existed in full operation, while, *vice versa*, some of its severest visitations have occurred at periods, when the circumstances of the climate, and the strict execution of our police laws, have seemed to promise us a freedom from its attacks; and that finally, in seasons of totally opposite characters, either very wet, or very dry, the disease has still made its appearance. Puzzled by these phenomena, while a few have adopted the notion of contagion, a majority of those who have speculated upon the point, have concluded to rest satisfied with the idea, that an unknown *something*, or some occult quality, or principle in the air, is to be considered as the cause of the disease. All the above difficulties are

however, I conceive, to be solved, or in a measure reconciled, by advertance to a single fact which has hitherto been unaccountably overlooked; it is this, that at every period in which the Yellow Fever has appeared in Charleston, the summer, or *season at large*, has been *unusually sickly*, that is, the country as well as the town, has been afflicted by fevers of a fatal and violent type. I am enabled, from my experience and observation in the course of the last twenty years, to bear testimony to this circumstance, the philosophical application of which seems at once obvious. It is easy to perceive, that if to an atmosphere, which has already, from various causes, become so deleterious as to occasion *general unhealthiness*, *be superadded*, all those effluvia which from foul streets, sewers, &c. are contantly contaminating the air of cities, a malignant disease must necessarily be produced, and accordingly, under such circumstances, the Yellow Fever has invariably broken out, with greater or less violence, in proportion to the sickliness of the *country* or season generally. The causes arising in the city acting alone, that is, during healthy summers, are never sufficient to produce the fever, Charleston being always healthy when the country around it has continued free from any remarkable mortality. The fevers of the town and country being thus always concomitant, surely indicate, beyond the possibility of dispute, that they have a common origin, or are congenerous to the climate; though, indeed, widely distinguished from each other in symptoms as well as locality.

"The type of the diseases in the two cases, being wholly unlike, is simply ascribable to the circumstance, that the *miasmata*, which infect the air of the country, are less confined and concentrated than those of the city, and being mostly of paludal origin, are in consequence less pernicious than the putrescent and animal effluvia, which arise from amidst the dense population of the latter. It will not be of course contended, that the fevers of the country are either imported, or contagious; yet that they do, as above stated, make their appearance, and continue contempora-

neously with the Yellow Fever, is, I reiterate, a concurrence which has invariably taken place within my own experience.*

"Though I am unable to support this statement by any direct documentary evidence, there being no Parish Registers regularly kept in any part of the State. yet sufficient testimony on this head may be gathered from the works of Chalmers and Huntt, who precede all the accounts they give of the epidemics which desolated Charleston in the early part of its history, by saying that the summer of those years were unhealthy. That in using this language, they referred to the country as well as the town, is, I think. fairly to be concluded, as those authors write the history of the colony at large; the work of Dr. Chalmers is expressly entitled, *an account of the weather and diseases of Carolina.*

"Another proof which assists to illustrate the indissoluble connexion subsisting between the states of the air in town and country, is, that a stranger, arriving direct from Europe, may, without risk, spend the summer in Charleston, whenever it happens that the country around it is unvisited by sickness; for the town then remains healthy, though the communication with the sea-ports of the West Indies, where the Yellow Fever permanently exists as an endemic, continues open and unrestrained. It is, moreover, very observable, that a stranger does not obtain security by having been exposed to a season of this sort, but in order to be completely climated, must actually pass through a Yellow Fever summer. The security acquired in the latter case, cannot be accounted for but upon the hypothesis I have been advocating, that of the indigenous origin of the disease. It results from the mildness of our winter vicissitudes, which leave the system in possession of that peculiar organical modification, which it undergoes by exposure to the epidemic in the first instance, when the elasticity of the animal economy enabled it to adapt itself to the climate.

* The sickness of the last year in the country, where the mortality constantly kept pace with that in the city, is fresh in the recollection of every one.

and to resist infection. The indiscriminate attack of the disorder upon both natives and strangers in the more northern cities, is to be explained upon an analogous principle. The severity of the winters in those places, while it destroys all the seeds of the epidemic, creating a totally new climate, also produces an entire change in the constitution; obliterating all those summer habits of the system, which give safety to the inhabitants of southern and tropical countries. The liability of the children in Charleston, to take the disease, until twelve years of age, I conceive to be owing to the alteration induced by growth upon their tender constitutions, which are constantly effacing those impressions of the climate, which become permanent in adults and strangers, placing them in that respect on a worse footing than the latter, though they are certainly less apt than strangers to take the disorder. We thus see that all the anomalies and peculiarities which have been enumerated, become at once simplified, and are to be philosophically accounted for, by admitting the doctrine of the agency of climate and the operation of local causes, while they must for ever remain inexplicable upon the hypothesis of importation or contagion. I shall not deem it necessary to enter into a particular investigation of the merits of the latter opinion, but shall content myself, in my next, with noticing some of those local peculiarities which seem to be in a very especial manner connected with the history of the Yellow Fever."

MALIGNANT BILIOUS REMITTENT,

OR YELLOW FEVER, IN NEW-ORLEANS.

THERE is but one well-founded and universal opinion of the severity and duration of the summer and autumnal fevers of the above ill-fated city; its situation on the Mississippi on low and level ground, fre-

quently overflowed, becomes critical during warm seasons, after long droughts in the northern regions of America, which considerably lower the water of that great river, uncovering immense surfaces of mud and of animal and vegetable matters, the miasmatic fermentation of which must generate pestilence. The following account of this recent occurrence cannot fail to interest our readers.

Extract of a Letter from a Physician at New-Orleans, to a gentleman in this town, dated September 13.

"To fulfil a promise I made you ere my departure from Boston, and to let you know I am still in the land of the living, or rather of the *dying* I should say, I now address you—Disease and death now stalk around me, in all the pride and devastation of power. My friend and uncle has been one of its victims, and indeed many of my other friends here have felt its effects, and have fallen before it. I found many old friends here, that I did not expect to see. The disease, I am told by the physicians here, carries more malignancy with it than they ever knew it to, and it has been very fatal. The number of those who recover is said to be small. All methods of treatment seem to fail in certain cases. I saw an instance of this, in a family in which I visited, and in which I attended one patient. The three first patients attacked in the family, were attended by a long established practitioner, and died, (the father and two children,) all in one week. The practice was partial bleeding and calomel. The next patient, a young man whom I attended and bled copiously, died. Another attended by an old practitioner, and not bled at all. died; all from one house. Another from the same house, bled once, and treated with calomel, got well—being one out of six—but it was a mild case, and he was from a warm climate.

"The fever has the characteristics of that described by Dr. Rush and Dr. Chisholm; and I have been informed by a physician direct from the Havana, and who has since fallen a victim to it here, that it is the

same that rages at present in that place; and by another person, that it is similar to that which prevails in the other West India islands, commonly subject to it. It has changed, of late, some of its most malignant symptoms. When I first arrived, incessant vomiting, ending in black vomit, was most usual—now a suppression of urine is so; but the black vomit still occurs. I had been here but a few days, before two cases came into my hands—and since then I have seen many cases. Capt. ——'s was a very lingering case. He died on the 29th day, of relapse or reinfection. His symptoms were very malignant from the first, with the watery, fiery, rolling eye; incessant vomiting; then suppression of urine and hiccough; these all subsided some days before he died—but his pulse sunk, and the universal pains over the whole body, with which it most commonly attacks, continued to the last. His head was but very little affected. His mouth became sore on the 5th day, just as he appeared to be sinking under the disease—but ulceration of the gums came on—the fever returned with the most malignant symptoms, hemorrhage, diarrhœa, black tongue, &c. The stimulus of brandy and wine lengthened his life ten days longer, when the scene closed. On the 5th day he had incipient black vomit. I have had two cases with pain and soreness at the epigastric region. They both recovered after copious venesection and ptyalism. I have seen but one case with black vomit—all cases I have seen have had black stools, and most, bilious vomiting. A cold skin and clean tongue have been very malignant symptoms; the former, Capt. —— had. Diaphoresis is far from being favourable—but a hot skin to the last is so. There seems to be no crisis. Terminations are generally rapid—remission on the 3d day, and death on the 4th, or 5th, which, with the 7th, seem to be critical days. The first cases I attended had distinct intermissions—but now they have remissions, as I have just stated, or run on to a fatal termination in 18, 24, or 36 hours. Affection of the head with delirium, is common. One of my patients knocked his nurse down and ran into the street

in his shirt—he died covered with petechiæ, and bleeding from a carbuncle profusely. He had great soreness of the flesh on pressure, with yellowness of the eyes and skin. This is very common on the 3d or 5th day--but not universal, nor to be depended upon. In Capt. ——s' case, it went off before he died. One woman I have heard of, walked about a few hours before her death, and during all her sickness.

"The exact number of deaths daily I cannot ascertain. It has been said to have been fifty-four on one day. I have seen six funerals within a few minutes—twenty-two to twenty-five a day are common. The number of French who die now is said to be double that of the Americans, about the proportion as regards the population. The population now is probably about 12 or 16,000. Great numbers have left us. I have heard of two cases of the fever being excited into action by leaving the city a few days after. The weather since I have been here has been very damp, and attended with much rain. In August there was only six days without rain, and of late it has rained a great deal. The fever usually commences among the shipping, and on the banks of the river, at what is called the Levee. The river falling, leaves the ground beyond the Levee bare, and usually covered with filth; it being the place of deposite for all the filth of the city. The river is lower than it has been for many years. It is now at the lowest--more than twenty feet. The stench near it is exceedingly offensive. The sickness usually begins with the falling of the river, though I have been told that there were some very malignant cases early in the spring. The country is completely level--the city stands on a plain, and surrounded by swamps, beyond which are woods--behind the city is a basin connected by a canal with Lake Ponchartrain--the city is regularly laid out like Philadelphia and Charleston. It is a little singular that these three should be so much visited by this fever. The heat has been very excessive--I have marked 94° in July, 86° in August, and 90° this month; 86° and 88° are most common; 73° is the lowest I have mark-

ed. The weather in general is very calm and close.—There is not a shadow of reason for supposing the fever imported. On a subject so much discussed, and respecting which, there is so much difference of opinion as to its contagiousness and origin, my opinion would carry but little conviction—but I cannot help expressing my conviction that it is the bilious remittent and intermittent fever, made more malignant by circumstances, and not contagious. The latter is proved by the fact of those who go from here to the Bayou St. Louis, having the fever and not communicating it there. The opinion of Dr. Bancroft respecting its origin appears to me most reasonable. How far animal matters are concerned in creating it, seems to be dubious—but we ought to allow them some share I should suppose."

AN ESSAY

On the operation of trepanning the Sternum and tapping the Pericardium. *By* M. Skielderup.

Translated for the Medical Repository, *from the Latin of the Transactions of the Royal Medical Society of Copenhagen*, 1818—*by* E. W. Wells.

THAT the diagnosis of dropsy of the pericardium is uncertain and ambiguous, has been long and deservedly the complaint of physicians and surgeons; for even some of the most skilful have declared, that in persons in whom the symptoms of that complaint were apparently infallible, they had found no water in the pericardium after death. Others, on autopsic examination, have found as much as three pounds of fluid in the pericardium, when, in the living subject, there had appeared no signs, from which the presence of an unusual quantity of serum could be inferred.

Though I do not wish to oppose either the former or latter opinion, yet I will not deny, that under the

guidance of physiology, we may designate with certainty the concomitant symptoms of dropsy of the pericardium. The diagnosis of this disease having been thus involved in obscurity, it is no wonder that the operation called paracentesis of the pericardium should have been irresolutely undertaken and tremblingly performed; and this caution is the more praise-worthy, as the operation described by some celebrated authors in their writings, must be esteemed equally fatal as the evil to which it is proposed as a remedy.

It will not be foreign from our purpose, for the sake of proving our argument, to produce some eminent authors who have written on the method of performing the above operation. HEISTER, GARENGEOT, HENCKEL and BELL, have been silent on the subject. SABATIER, as far as I know, was the first after SENAC, who proposed to extract water collected in the pericardium by tapping it with the trochar, introducing the instument into the left side, between the third and fourth ribs, without previous incision of the muscular parts; and to avoid the internal mammary artery, making the opening at two inches distance from the sternum in an anterior and inferior direction towards the xyphoid cartilage. But by performing the operation in this way, the trochar, by piercing the diaphragm, may penetrate into the cavity of the abdomen; and therefore, in my opinion, this instrument must be considered as not well adapted for extracting water from the pericardium, especially if it is to be applied before the pleura is laid bare. On proper consideration of the subject, I find four reasons why the trochar should be deemed an improper instrument for the purpose.

1st. Because we cannot always take it for granted that in dropsy of the pericardium, the lungs are compressed towards the posterior part of the thorax; for the adhesion of the lungs to the pleura, which not unfrequently occurs, entirely forbids such a supposition.

2d. Because the constant motion of the heart would cause irritation from the canula, were it left in the pericardium.

3d. Because, on withdrawing the canula, the usual symptoms of wounds penetrating the thorax must necessarily occur.

4th. Because, if the disease does not exist, a dangerous wound is inflicted on the patient without the least benefit.

Dessault, that most experienced surgeon, has once performed this operation on a different plan or theory, by making an incision between the 6th and 7th, true ribs of the left side. Whether the pleura was opened or not, he does not say; but there can be no doubt that the incision penetrated that membrane, as the cyst from which the fluid was extracted, was found situated between the pericardium and the lung. The final issue of that operation was unfortunate; for the patient died four days after. The celebrated Richter proposed to tap the pericardium by means of the trochar, between the 4th and 5th ribs, previously making an external incision. But, with as much candour as he appears to advise, I must say that this would really be a very rash operation. I wonder what the famous Bernstein had in view when he directed that an incision should be made between the 3d and 4th or even between the 7th and 8th ribs of the left side, five-sixths of an inch distant from the sternum, at about the middle space between their extremities; for indeed it is not at all probable, either that the pericardium, although distended with fluid, could compress the lungs so much towards the spine, that it could be denudated by an incision made in the place he describes; or that a portion of air penetrating through the wound and rushing into the cavity of the thorax, could induce so great a secession.

Our celebrated Callisen approved of the above-mentioned design of Richter. The renowned Hunczovsky and Tittman have described only the methods which the others made use of. All the modern surgeons, therefore, who have said any thing concerning the mode of performing paracentesis of the pericardium, as far as I know, have agreed in recommending, that the incision should be made in the interstices of

the ribs. Physiological and pathological principles cannot but induce me to consider this as a very injudicious manner of performing the operation; for in the first place, on making the incision as above described, the pleura will be opened, and all the effects arising from a wound penetrating the thorax will immediately take place. Who can be ignorant that such wounds of the thorax are always dangerous, and more especially so in dropsical persons, in whom the functions of respiration are feebly performed, or are, as it were, in a torpid state?

On opening the pericardium, the water may be extracted; but a small quantity of the same will be effused into the cavity of the pleura: for the pericardium is situated near the sternum, but at some distance from the ribs. As, therefore, each method hitherto proposed and made use of for tapping the pericardium has its difficulties and dangers, I would propose to students of the healing art, an operation according to their wishes, and which when put in practice, will threaten no danger either to patients really affected with dropsy of the pericardium, or to those, in whom, fallacious symptoms may have deceived us respecting their disease. But, is such an operation practicable? or, in other words, can the first indication of such an operation be fulfilled without danger to the patient? I will answer this question satisfactorily.

The pericardium is situated in the middle and anterior part of the thorax, between the two laminæ of the mediastinum, with its base on the diaphragm and its apex inclining upwards. It is almost entirely enveloped by the pleura; but, at the inferior part of its anterior surface, we find a triangular space not covered by that membrane, lying immediately behind the sternum. By exactly ascertaining this spot and *trepanning* the sternum there, we may make an incision in the pericardium, without danger of wounding the pleura, it being perceptible through the opening. But, to ascertain exactly this space, we must consider the expansion of the pleura. Both its membranes, as is well known, invest the internal surface of the thorax, so as

to form two sacks, the anterior edges of which adhere to the posterior surface of the sternum and to each other. The edge of the left sack arises from the middle of that bone between the cartilages of the 1st and 2d ribs, and gradually diverges towards the left side until it meets the diaphragm. The anterior edge of the right sack arises from the same place, and the edges of both in contact continue to descend to the region of the cartilage of the 5th rib, where they separate, the former receding in an oblique direction towards the left side, and the latter descending almost in a direct line. Thus, the aforementioned space originates. It is filled with a peculiar cellular substance; inclines rather towards the left side; is of a triangular shape, its base being towards the diaphragm, and its apex extending to the 5th rib. Having, on attentive anatomical examination, observed these circumstances, I take upon me to declare that the most suitable part of the sternum for applying the trephine is that lying between the cartilages of the 5th and 6th ribs. The space abovementioned was unknown to the ancient anatomists VESALIUS, FALLOPIUS, EUSTACHIUS, SPIGELIUS, HIGHMORIUS, WINSLOW; but several more recent authors have noticed it. Our professor, the illustrious SCHUMACHER, in his anatomical lectures delivered many years ago, demonstrated, in the clearest light, that the anterior edges of the laminæ of the mediastinum receded from each other: nor has the celebrated HILDEBRAND been silent on the subject; but this author makes no mention of the sternum among those parts said to cover the pericardium; and even MEJER himself omitted this circumstance. SÖEMMERINGIUS is the only modern writer who describes the contact of the pericardium with the sternum.

It may easily be perceived, from what I have alleged, that none of the modern surgeons have well determined or described the triangular space under consideration. Some, it is true, have noticed the separation of the anterior edges of the laminæ of the mediastinum; but have falsely described this recession as taking place in the region of the cartilage of the 3d rib:

whereas, it has been proved beyond doubt, by dissection, that it occurs in the region of the 5th rib.

To meet these objections, I instituted the following experiment, a frequent repetition of which removed every doubt respecting the possibility or practicability of the operation. I trepanned the sternum, by a single application of the trephine between the cartilages of the 4th ribs. Having removed the detached portion of bone, I then made a crucial incision in the aponeurotic membrane, and the right lung, enveloped entirely by the pleura and covering the pericardium, distinctly appeared on inflation. But, through this opening, an incision cannot be made in the pericardium without injuring or wounding the pleura at the same time, an accident which often happened to me, before I knew the true connexion of its anterior edges. Above this first aperture, I made two more openings with the trephine, and the lung appeared through the whole extent. I then applied the instrument again, a little below the cartilage of the 5th rib, and on making an incision in the aponeurotic membrane, the cellular substance with which this space is filled, immediately protruded, showing that the place was found, where an incision might safely be made in the pericardium. Through this lower opening, I introduced a long thin knife into its cavity, in a horizontal direction, without wounding the pleura, as it was laid bare, and plainly perceptible. On puncturing that membrane (for the sake of experiment) the lungs immediately became collapsed, as the eminent gentlemen. SCHUMACHER, RATCHE, KLINGBERG, FENGER, have witnessed, and the knife introduced between the laminæ of the mediastinum obtruded and presented itself to sight.

Any one who wishes to perform this experiment, should choose a young subject, in whom the adhesion of the lungs to the pleura does not occur so frequently as in those of a more advanced age. Although, from what I have said, the method of performing this operation would appear plain and simple; yet, I may be allowed to offer some appropriate remarks, to which operators should pay attention.

1st. A wound of the pleura on trepanning the sternum, may be avoided by observing the usual cautions, inasmuch as the aponeurotic membrane is thickest at its lower part. 2d. If hemorrhagy should take place on the division of that membrane, the completion of the operation must be delayed. But, should there be no hemorrhage, the surgeon must, notwithstanding, be careful not to make the incision in the pericardium until it is propelled into the opening of the sternum, which may be ascertained by the fluctuation to be felt with the end of the finger. 3d. In making the incision, it is evident that the patient must be inclined forward.

REVIEW.

DISCOURSES *on the Elements of Therapeutics and Materia Medica. By* B. N. CHAPMAN, M.D. *Professor of the Institutes and Practice of Physic and Clinical Practice in the University of Pennsylvania: President of the Philadelphia Medical Society, &c.* 2 Vol. 8vo. Philadelphia: Webster, publisher. W. Brown, printer. 1817.

THIS work is divided in fifty-five discourses on subjects appertaining to the title. It embraces also interesting matters on the theory and practice of physic, and is well worthy the attention of students of medicine for the valuable and extensive information it contains.

In comparing all that is herein collected from much reading, and from practical experience, we infer that the author is very steady in his habits of industry, and of methodical labours, or else he could not have accomplished this performance at an early period of his professional career.

Alluding to recent American literary and medical works, Professor Chapman says, in his preface, that "they are well calculated, by reflecting the lights of science from the new upon the old world, to redeem in part the heavy literary debt we have incurred, and to vindicate the insulted genius of our country from the contumelious reproaches so long and disgracefully endured by us."

We apprehend, however, that the settlement of that considerable balance is not likely to be much contributed to, by the present work, when it is considered, that embracing many important subjects or branches of medical science which have already been improved by American medical writers, this book offers no record of their names, of their writings, and scarcely of their discoveries. Dr. CHAPMAN has only found

occasion to compliment a few of his colleagues and cotemporaries for their opinions and for occasional subjects and useful labours, depriving himself thereby, of the weight and authority which a body of eminent American authors might be entitled to in foreign schools of medicine, where, at least, he would be happy to introduce their names, if they were not already known. Perfectly aware that every province of natural history has been tributary to the extension of materia medica, we regret to read in the pages before us, that the efforts in the United States to advance that science have been "slender and imperfect;" (vide page 19,) for, let us take only the science of botany, so fruitful and luxuriant in this new world. It no doubt claims much the best part of the treasures of materia medica obtained by the labours of natives as well as Europeans.

BARTRAM of Pennsylvania, anciently botanist of the King of England, explored the vegetable productions of the southern States, and cultivated rare and medicinal plants until his death, at a very great age, in the neighbourhood of Philadelphia.

JOHN LINING, a physician of Carolina, discovered and first wrote on the authelmintic properties of the pink-root (*spigelia marylandica.*)

JOHN CLAYTON, M.D. of Virginia, was so great a botanist, that he deserved the dedication of the work of GRONOVIUS on American plants.

HUMPHREY MARSHAL was the author of the *Arbustrum Americanum*, printed in Philadelphia.

We have also a *Flora Caroliniensis* by THOMAS WALTHER;——An excellent botanical work by BENJAMIN WATERHOUSE, M.D.

Omitting here many other experimenters and observers on American medicinal plants, we must give a few lines for the celebrated Rev. HENRY MUHLENBERG, author of the *Flora Lancastriensis* and of the catalogue of American native and naturalized plants. Finally, we remark, that the present author, who has rendered a proper homage of respect to his predecessor Professor BARTON, a great botanist and naturalist, has not even written his name, for the sake

of strangers and readers, who cannot know who was his predecessor. We express our r gret that Professor CHAPMAN appears never to have read the historical account of the contributions to the science of botany from native writers, as well as Europeans, who have long ago testified what rich productions the American fields and forests could have afforded to science, and to medicine (vide collection of the New-York Historical Society, vol. 2 page 149. "An account of the Botanical History of North America," by SAMUEL L. MITCHILL, M.D. &c.)

On the other hand, the author has more partially adverted to the doctrines of English writers, and has certainly proved that he is better acquainted with their works, than with those of his countrymen, or else he could not have passed noticing their experience and opinions on the diseases of our country, for the management of which we should suppose European therapeutics have very little to do. The vicissitudes of our climate have indeed such violent effects on ordinary diseases, that no experienced practitioner here would attempt to treat syphilis or any acute endemial complaint, as it may have been done, no doubt, with much advantage in Portugal or in India. He tells us himself that "even our diseases have a violence which exacts for their cure either new means, or original combination of vigorous practice." (vol. 1. page 22.)

We should therefore expect to have met here something of RUSH, RAMSAY, MILLER, MEASE, MITCHILL, WARREN the elder, ENALLS MARTIN, NORTH, WILSON, GALLUP, SHECUT, and others, on the epidemic diseases of the country; of THATCHER and COXE on materia medica; and others.

Had this justice been done, no doubt the above presented debt to the old world would have been nearly refunded and balanced!

After a discourse containing a concise history of the science of materia medica, the author enters into preliminary remarks on the productions and climate of the new world, on the useful materials derived from the vegetable kingdom, and from chemical compounds.

By experimental observation of these materials, (the only way in which the virtues of remedial substances have been ascertained,) we are led to a due exercise of our reason, by which those theories are formed which constitute medicine as a science of judgment and induction. Thence the writer commences the interesting subject of the *modus operandi* of medicines. Averse as we are, and as much as he expresses himself to be against long preambles, we at once resume his declared opinion, that medicines act by a local *impression which is extended through the medium of sympathy*. He therefore feels authorized to reject that relict of humoral pathology implying the commixion of remedial substances with the circulating fluids.

In all abstract questions, it is much easier to refute a *false* doctrine than to replace it by a *true one*. As for what respects *Humoral Pathology*, we not only side with the author before us, but we claim some years of priority, for promulgating an absolute rejection of it in a comparative statement we have made of arguments by the *humorists* against the *solidists*, for which we refer the reader to our Vol. 3d, New Series, page 42 and following. But because we explode it, we are by no means disposed to countenance the *remedial sympathies* of the Pennsylvania professor; no more than we would think it right to conclude, that by some laws of *sympathy* certain coarse and useful matters are separated from the nutritious substances introduced into the human body, and the more pure and subtile are thereby converted into chyle and blood. With equal analogy we might submit all the laws of animal economy, of life and disease, and of the characteristic varieties in the human race to the principles of judicial astrology. To this science indeed of the Arabs and Cabalists we honestly should give a preference over the theory of *sympathetic* impressions on animated matter, from its long established prevalence among many nations, from the magnitude and uniformity of its primordial causes, inasmuch as it would be so conveniently at hand to resolve philosophical or physiological problems.

Sympathy is an attribute or quality of being affected

by the affection of another. In Greek and Latin it is a *consensus in affectibus*, and also a *conjunctio naturæ*. The French language gives no other signification to this word. but that of a conformity of thought or of feeling. There cannot, therefore, be any law of sympathy from dead to animated matter. An impression, no doubt, can be communicated from the first to the last; but such an operation in the human system depends upon the *vitality* of the organs or their degree of susceptibility, as much as upon the different functions which they exercise according to the laws of our existence. This kind of agency which is produced by matter or medicines on our frame, cannot, therefore, be called *sympathy*, inasmuch as it is a material operation totally independent of moral causes, consciousness, and feelings. Again, that there are sympathies in the acts of living bodies of man or brute, we do not deny. These are excited through the senses, or may occur from healthy, as well as from morbid associations; they characterize vicious habits; they constitute sometimes moral or physical depravity; they can even aggravate erroneous perceptions to a perfect state of mental derangement; but, in any way whatever, *sympathy* is a power exercised on the acts of living bodies—sometimes on animal functions—always in connexion with natural instinct, with thought, or with the sensorium: so that it may be called a chain between the soul and body, an action from instinct, operating for the preservation of life, and also a reflected or reacted impulsion from pleasúrable sensation. That such a power has no existence nor reality in the animal economy, or in the operations of organic or vital laws, which are placed by a wise Providence under the preserving power of the *involuntary muscles*, is strikingly obvious and evident. It would be as unphilosophical and absurd to admit sympathy from *impressions*, as necessary for the preservation of life and organization, or for counteracting morbid causes, as if gravity, attraction, or chemical affinity, were resorted to as elementary principles of physiology! The author before us speaks of diffusible powers regulating the various functions of life, creating

excretions, and secretions, and in fine converting the state of disease into that of health; the whole to be effected by the power of sympathy! He might as well have said, that a magician's wand can call up winds and tempests, awake the dead, and reanimate shades or intermingle apparitions and ghosts with the living.

We will now put in opposition to the medical sympathies of Dr. C., the known results or visible operations of medicines.

The first is, that, notwithstanding the infinite multiplicity of diseases, to each of which, remedial substances must furnish a peculiar and well adapted sympathy, we find, that, but a few modes of operation, or attributes, are comparatively distinctive in medicines. Say, ten or twelve are *Emetics*, from mineral, vegetable or chemical compounds, which, given in a proper dose, never can create any other impression, but that of vomiting. Perhaps double that number will produce only *purging*, with more or less activity. Some medicinal substances will increase the secretion of urine, or give more frequency to its discharge. Others have only the property of exciting diaphoresis, or *tonic*, *stimulating*, or *astringent* action; and so on of the other denominated classes of medicines. It is not, therefore, admissible, and much less probable, that each individual article of one class, all similar in their modes of operation, should besides be endowed with an occult attribute to counteract a disease by sympathy. To illustrate this argument, let us take *hydrargyrus*, which the author excludes from the class of *sialagogues* or salivating medicines, to *locate* it among the *tonic stimulants*. He admits its remedial power in a great number of complaints; in fevers, especially the bilious autumnal, the typhus, and the intermittent; in phlegmasiæ, in anginose or throat affections; in cynanche trachealis; in pneumonic inflammation, and pneumonia notha; in rheumatism; in hemorrhage and other profluvia; in chronic dysentery, in diarrhœa; also in tetanus, dyspepsia, paralysis, ascites, anasarca, hydrocephalus, and, in fine, in syphilis, and many cutaneous

diseases. Now, without controverting the curative properties of mercury in so many forms of disease, it is nevertheless true that its modus operandi, according to the offered doctrine, is effected by diversified impressions and *sympathies* in every one of them. The curative sympathy, which removes paralysis or an affection of the brain, cannot, certainly, be the same as that which resolves pneumonia, or ascites. How so many different impressions or sympathies could result from one medicine, it cannot be explained or understood, and our readers must be at a loss to define. The theory, therefore, is *unphilosophical.* And, that it is *false*, the following remarks must evidently establish.

The definition of sympathy which we have already given, as uniformly adopted in ancient and modern languages, proves that it principally originates from conformity or similarity in affections, passions, or feelings; but another cause of sympathy is the habit itself in the same subjects, modes, or practices which excite peculiar affections and sentiments. The force of habit leaves indelible impressions which form a moral or physical character in any sense of goodness or depravity. Habit constitutes the nature itself of man, inasmuch as a change of it can rarely be effected by contrary impressions. The fact is well known of that young savage Hottentot who had been educated in Amsterdam, to be employed as an officer, and an interpreter, at the Cape of Good Hope, between that colony and the chiefs of his nation on the northern lines of the establishment. At the first interview that took place, by the order of the government, for some important business with the chiefs, all the first impressions of his native affections and savage life were renewed in this young Hottentot, who could not resist its allurement. He undressed himself immediately, threw off his European uniform and epaulets, and with them, his allegiance to the Dutch government, to run away into the woods with his half naked friends, mates, and relatives. (vide Abbé Raynal.)

Very few instances could be produced of a more

overruling sympathy thus created by former habits. Far from observing the same march, or natural effects on the human body from remedial impressions, we are to testify, that by long continuance and by habit, they wear out their *vis medicatrix*, and they become perfectly inefficient or useless. Medicines are not only incapable of creating sympathies, but it has been indubitably ascertained that many poisonous ingredients can be rendered innocuous by habitual use; and, by the same power, medicines of the greatest activity may lose their known properties, and in many instances, produce quite contrary effects.

The ancient writers on materia medica wisely kept in sight a more inductive philosophy to account for the *modus operandi* of medicines. It was that of embracing and analyzing all articles of nutriment as a principal branch of their science. There could be no objection against the belief that the laws, by which these give growth to the body, and diffuse vigour through the limbs, are the same, by which, medicinal substances may affect the human system, except that of their occasional incompatibility with ingested fluids, or with the organs of digestion. Even, under this view, they may be highly useful, and answer very important purposes. Nevertheless, many medicines are friendly to the stomach, and are compatible with the laws of digestion, as much as those condiments which we are accustomed to mix with our food. Rhubarb, madder, cinchona, opium, alcoholic tinctures, aromatic and volatile oils, vegetable extracts, gum-resins, neutral salts, and other medicinal substances, undergo the whole or a great part of the process of digestion. Some of their constituent principles are well known to have reached the excretory organs after decomposition. They had therefore circulated through the lymphatics and lacteals. Cathartics we presume undergo the first stage of digestion, when by an antiperistaltic reaction they are excluded from the alimentary canal, nature wasting, for that purpose, a great quantity of bile, intestinal mucus, and other fluids, which, it is our province to renew or correct. Active or diffusible stimulants,

tonics, diaphoretics, sedatives, &c. are also more or less digested according to the views of our experimental art. In other instances, and by a prompt transmission through the absorbents, of certain substances received into the body, or applied externally, medicines may operate without the medium of digestion. This phenomenon is peculiarly remarkable in the urinary organs, and is effected by juniper, by cantharides, and by nitric compounds. We cannot define what specific analogy there may be between certain organs and several vegetable substances of this description.

Mercurial fumes have been known to excite a suddenly fatal salivation. Yet such susceptible predispositions can easily be overruled or destroyed by habit. The same power may also entirely change the virtual properties of medicines, as already stated; and this alteration still more strongly proves that they more perfectly undergo the process of digestion. Thus, instead of stupor and torpor, the Turk derives from opium, the enjoyment of pleasing sensations, reverie, and hilarity to such a degree, as to exhaust animal excitability, to impair muscular contractibility, to distort his limbs and cripple his existence. This singular effect has been thought, by some, to originate from a peculiar idiosyncrasy of the Asiatic; but we have seen it experienced by a European gentleman in this country, who could, every day, digest, as a comfortable dose from fifty to sixty grains of opium. By it alone, could he raise his spirits, enable himself to do business, to play a game of chess, and even to create an appetite to partake of a good meal, and by it, also, to regulate and correct his alvine functions!

The argument in the book before us, derived from the identity of the nature of the chyle, "that highly elaborated fluid," however diversified might have been the materials from which it was formed, against the admixture of medicinal substances in the digestible fluids, is of no more avail in the present question, than it would be to deny the admission in the same, of the condiments which we eat with our food, and also of

many chemical substances, acids, alkalies, or alkaline earths; merely because they are not found present in the chyle. This is not a reason why the same may not then have been long, and, perhaps, remain in the system. The possible complete saturation of living bodies with certain chemical principles, is sufficiently proved, by the fact of the spontaneous combustion of living persons, after long and intemperate use of ardent spirits; by the sudden conversion of a wine-drinker into swarms of those red flies, which pullulate from vinous fermentation, as recorded by BUFFON; and by the conversion of dead bodies into *adipocire*, either by intervention of an acid, according to FOURCROY, or by that of an alkali, according to others, (vide Med. Repository, Vol. XIX. page 103.)

We next come to the classification of medicines as adopted by the Philadelphian Professor, which we apprehend he does not much admire himself. This part of his task, we confess, remained the most difficult, unless he would have consented to improve on the modes of classification adopted by CULLEN and BARTON. But this he has not attempted, except, that like the American Professor, he has overlooked much the best part of the work of the Scotch author; that is, the ALIMENTS, constituting such an important division of materia medica. Of the defects and misconceptions arising from classes of medicines construed by their denominated virtual properties, before we can ascertain why and how often the same is changed or rendered inefficient, and what are the other attributes by which medicinal substances can be recommended in opposite complaints, we have already said enough in our Vol. 1st. N. S. page 163.

In every discourse of the present work, headed with the titles *astringents*, *stimulants* or *sedatives*, *&c.* nay, in every individual treatise of articles belonging to an identical class, we find that the learner must unlearn that a medicine is good but for one thing; and on the contrary he must learn that it may be applied in different views or indications, and that the same is equally remedial to diseases of opposite characters.

Nomenclatures, and systems of classification, were invented for the benefit of judgment and memory in scientific pursuits and investigations; the best of them therefore is that which is accommodated to our perceptions by the most truth, analogy and simplicity. But this will not be the case if a leading principle in progressing and subdivided application becomes totally contradictory or exceptionable.

This has been mostly the case with ancient and modern writers on materia medica, which, as a branch of medicine, is the less calculated to be embraced into the artificial frame of a nomenclature. Those who arranged the articles of materia medica according to the kingdoms of nature, brought considerable difficulties to the science, in assimilating genera and species of remedial substances of opposite characters, and indications in use, which disconnected them entirely in practical purposes; and our recent lecturers have been neither more consistent nor fortunate; if any thing, they have confused the science, by inverting the order of methodical instruction, from the names of the diseases to the knowledge of remedies which are required or are the most recommendable, to that of the medicines for a multiplicity of complaints, in which experience might have proved them useful. From this mistaken plan, the work before us is really rather a treatise of the theory and practice of medicine, than of materia medica. It differs from a good one, only because its divisions are irregularly scattered, and because they are necessarily so often repeated under the heads of remedies to which they appertain: in fine, it manifests and authorizes that illusory and empirical remark, that any single medicine, *hydrargyrus* for instance, and others, are equally good to cure almost all sorts of complaints!

It has been owing to the defective mode of classification in these two volumes, which has wasted much time, words, and space, that the reader has to regret, not to find in it something like a complete arrangement of all that is important in materia medica, while to "chemistry and chemical compounds," in the words of the author, "we owe the greatest obligations."

There is nothing specified in Dr. CHAPMAN's book about aliments, as we have already noticed. Granting that his opinion is entitled to the rejection from materia medica of any but medicinal substances, why should he exclude the numerous articles of nutritious *feculæ*, to which a physician is so often obliged to resort; even those which in case of suspended digestible functions, are so judiciously and effectually administered, through the absorbents of the skin or lower intestines? They form, indeed, a very interesting class in medicine, not only because, by familiar and domestic processes, they can be procured from the *cerealia*, but also from roots and leaves of plants interesting to know.

We find nothing, in this book, of the primordial and chemical concentrated elements, which can be so successfully employed in disease; as steam, warm and cold baths,—ice,—gases of different kinds,—caloric,—the actual cautery in the pyrotecnic practice, defended and successfully used by PERCY, by VALENTIN, and by GONDRY, which are not to be overlooked in materia medica.

We are surprised that the author should almost entirely reject the use of the phosphate of soda, so useful in scrofula. Many volatile respirable substances are not mentioned; although the author specifies that the modus operandi of medicines is through the stomach, the skin, and through the organs of smell. Of iron, as a emenagogue, its carbonates and phosphates so much esteemed in aggravated uterine complaints, and of steel filings, he teaches very little to his class; nor does he recommend the celebrated preparation of gold lately introduced into practice, as an anti-syphilitic remedy, and for several chronic affections. A report of its efficacy in the primary stage of lues, and resulting from numerous experiments carefully pursued in the New-York hospital, has been published, but this evidence is of no avail to Dr. C. who remarks, that the British physicians have not yet thought proper to recommend the muriate of gold! Yet, on the authority of Dr. JACKSON of Jamaica, and others, he greatly extols the spider's-web or cobweb,

for the cure of intermittent fevers. The alkalies, potash, soda, and ammonia, however frequently remedial, and also many chemical substances, are astonishingly neglected, whether simple or compound, or constituting mineral waters.

One more subject of criticism we must not pass over; it is that a work intended not only for students, but for practitioners, "who are referred to any one of the common dispensatories for trite or subordinate medicines," (pref. x.) should be left in the shape of the identical lectures which the author has, during some years, delivered in the University of Pennsylvania. This is a liberty which, in our recollection, no eminent writer has yet taken in this country, except for a few subjects professedly delivered on particular occasions, and which by themselves were complete essays.

The form of a course of lectures gives to a scientific work an ephemeral character; because succeeding teachers, who must prepare and deliver lectures somewhat different or better, may shortly after publish the same, and supersede either the importance or the utility of the former. Again, a slender recommendation must naturally be attached, by scientific readers, to subjects composed for novice minds, which are expected to be intermingled with opinions, authoritative within the walls of a college, but often controvertible before the public.

The stamp indeed of hasty, or occasional composition, remains in the discourses of Dr. CHAPMAN. They abound with equivocal points of doctrine and incoherent remarks; with palpable contradictions, and with incorrect technical and classical words, which cannot be ascribed to typographical mistakes;* for the work is otherwise in general well printed.

It may be thought, that, in this severe criticism, we are influenced by prejudices or by motives of professional disagreement; and that, as reviewers of medical publications, we should have preferred to be silent on this work, rather than to have undergone the ungracious

* *Tormena* for *Tormina*, four times.

task which we have thus accomplished against a fellow-practitioner. But we beg leave to explain far different views, and more honourable motives. For more than twenty-two years, the editors of the Medical Repository have discharged the arduous task of diffusing, and establishing, the best medical doctrines, and such as they considered it their duty to support against any novel or ephemeral theories, which might retard the progress of useful knowledge; and no question could appear more important to them than that of the *modus operandi* of medicines, as presented in these volumes, and the fallacy of which they have endeavoured to demonstrate. American writers, on the other hand, have a right to examine certain assumed declarations, which, in their opinion, are not calculated to promote the literary and philosophical reputation of the schools established in our confederate republics; none should require their attention more, than a kind of promulgated *challenge* from one of those schools to contend for eminence and even for superiority *in this new or in the old world.* We should not anticipate any of those claims which a remote posterity can alone have the power to settle.

In fine, the characteristic candour of our criticism will be still more esteemed for the acknowledgment we feel happy to make of the true merits of the work under consideration. As an accurate observer and an excellent practitioner, Professor CHAPMAN has undoubtedly the advantage of ranking among the best instructors. He has exhibited much philosophy in his theory of many diseases, which he has the power of detailing with comprehensiveness and perspicuity. His views of many uterine profluvia, and hemorrhage, are the best that have been given in any recent treatise, and we rejoice that they are reproduced since the much forgotten work of the celebrated ASTRUC of France, the first who wrote a treatise on the blood-vessels, the lymphatics, and the lacteals of the uterus. We have much admired also his opinion of many equivocal or spurious syphilitic diseases, by which many victims of improper treatment will be rescued from

mercurial diseases, and from incalculable moral evils. We have written several Essays on this very question, principally to be found in our sixteenth volume. With him, we think also that the dominion of the stomach is connected with almost every function of the organic system, and that it is really the seat of a great variety of diseases, of which modern practitioners are not sufficiently aware. Professor C. frequently assists the students to recollect useful remedies by recipes subjoined to his pages, and by cautions on the subject of substances incompatible with the remedies he treats of. On the whole, and notwithstanding many omissions, the work remains a very instructive and useful compendium of elementary and medical knowledge.

A DISCOURSE *on the Connexion between Chemistry and Medicine, delivered in the University of Pennsylvania, November 5th,* 1818. *By* THOMAS COOPER, Esq. M.D. *Professor of Chemistry in the Faculty of Arts, in the University of Pennsylvania.* Philadelphia, 8vo. 47 pages, printed by Abraham Small. 1818.

Medical Chemistry, or a Compendious View of the various Substances employed in the Practice of Medicine, that depend on Chemical Principles for their formation; designed for the use of Medical Students, &c. By THOMAS MITCHELL, M.D. *of Pennsylvania.* 1819. 12mo. 132 pages.

FROM these two publications in the same place, and within a short space of time, we must infer that an unmindful and pernicious influence has lately prevailed in the medical school of Philadelphia, to undervalue the importance of chemical instruction as a necessary acquirement for medical graduation. Dr. COOPER takes his text from an eminent lecturer, who has represented chemistry as a collateral element only of medicine, and who does not recognise medical che-

mistry as importing more connexion with medicine, than it has with botany, zoology, and mineralogy. The same teacher has declared that "chemistry has filled questions of physiology, pathology, and therapeutics, with errors, and has added corruption to what was already sufficiently corrupt." The refutation of these paradoxes is prefaced by the remark that they were formed as an argument on a past, and not on a present state of chemistry. But we beg leave to observe that, twenty years ago, chemical studies and acquirements were highly cherished and patronised in the University of Pennsylvania. Dr. COOPER will recollect, that previous to the appointment of JAMES WOODHOUSE to the chair of chemistry, the trustees of that institution had offered it to the great PRIESTLEY, who had just retired to the peaceable shores of America. It was a happy circumstance that, he having declined that task, the choice fell upon a gentleman whose talents and industry would keep up a great emulation in his class, which was continued on a par, in point of number and importance, with those of the institutes of medicine and anatomy. The progress in that science was encouraged by a respectable chemical society, composed, with few exceptions, of medical gentlemen, and who were presided over by the professor of chemistry, and by the writer of these pages. Twelve lecturers and experimenters were appointed, who, in rotation, were to perform every week, and explain some of the most interesting experiments, which equalled, by their importance and success, those of the more celebrated schools of Paris and London. It was in this society, that the present professor of chemistry, Dr. HARE, first experimented with his newly invented hydrostatic blow-pipe, producing the most intense heat by the combustion of oxygen and hydrogen gases.

At a period, therefore, which Professor Cooper supposes to have been that of the infancy of chemistry, the most influential professors in the university of Philadelphia did not countenance any prejudice or indifference respecting the importance of that science in medicine. The contrary opinion of the professor of natural history, as above offered, we fear not to declare

a mere sophistry; nor can chemistry be compared to botany, zoology, and mineralogy, more than experimental and speculative sciences can be assimilated to descriptive branches of the kingdoms of nature, from which, medicine only receives the remedial productions which are necessary for the cure of diseases. The science of chemistry, which discourses on the eternal laws of substances and compounds, and which can disunite the last in animated as well as in dead matter, is certainly not a collateral, but one of the elementary sciences, upon which medical philosophy must rest. The inference, that chemistry has added "corruption to what was already sufficiently corrupt," is at best another paradox, inasmuch as the word *corruption* appertains to the definition of immoral acts, or to the departure from moral principles, and cannot designate the errors or defects of a speculative science. If, therefore, there is corruption in medicine, it cannot be but in the practiser.

Difficult would it be for us to add proofs or strength to the arguments by which Professor Cooper has established the immediate connexion of chemistry with medicine, in relation to physiology, pathology, semeiology, and therapeutics; poisons; mineral materia medica, vegetable materia medica; adulteration of medicines, pharmacy, and prescriptions.

It is by the light of chemistry that we obtain our best and admirable doctrines on respiration, animal heat, the composition of animal fluids, the bile, the urinary secretions, the bones, and the circulating fluids.

In the same pages, we find refuted the novel doctrine of the Professor of the Institutes, by which he attempts to prove, that "a mysterious process of assimilation animalizes all articles subjected to its influence, to render them homogenous and fit for nutrition; and that chemical action only takes place in the organs of excretion and secretion which are removed from the sphere of vital powers." "Should that doctrine be true," adds Professor Cooper, "then is the organized body a chemical laboratory, and nothing but the laws of chemistry can explain the phenomena of digestion and nutrition." But he opens a more irre-

sistible series of arguments in favour of the dominion of chemistry, under that all important branch of medical institutes, called *pathology*, or the history of diseases; and from it, he justly infers, that, with moderate attention to the chemistry of the animal body, much useful knowledge of the theory and practice of medicine can be obtained.

We would neither controvert nor disbelieve, that various acids can be spontaneously formed in the human body, and that morbid secretions of them are the remote causes of malignant, bilious, or yellow fevers, dysentery, diarrhœa, dyspepsia, and hemorrhoids; gout, lithic and arthritic complaints; even of phthisis, diabetes mellitus, rachitis, and scrofula. We are perfectly aware, however, that many of the above diseases are truly, and far more under the control of chemistry, alkalies, and neutralizing earths and antacids, than any other. We might subjoin several facts, illustrating the spontaneous formation or secretion of morbid acids; one is, the not unfrequent occurrence of the corrosion and perforation of the stomach by an intensely caustic gastric acid; another is, the characteristic acidity prevailing in diseases incident to women and children during the suckling period. Those diseases are indeed aggravated by a sourness, easily detected in the breath, or in the insensible perspiration of the body, and the same never fails to curdle the milk in the stomach of the infant, or in the breast of the nurse. There exists an interesting treatise on this abundant source of dangerous complaints, and on its appropriate chemical remedies, by a Doctor Harris of England. But on poisons, which are introduced or formed in human bodies, and which, in relation to practice and forensic medicine, require so much professional skill, and from the management and exhibition of remedies, we presume to say, that without chemistry our professional services would incessantly be empirical and nugatory. In taking leave of the eloquent Discourse of the Professor of Chemistry in the Faculty of Arts, we beg leave to introduce his following impressive remarks.

"It is not possible for a physician to stir in his practice, without employing his knowledge of medical chemistry, if he has it, or without lamenting the want of it, if he has it not. Hence it is, that not only the best chemists, but the best physicians of Europe, have been alive of late years to the improvement of medical chemistry, and to the prodigious importance of this branch of knowledge in medical practice. Where is the scientific journal devoted to medical pursuits, that does not overflow with chemical disquisitions connected with medical practice? Of living chemists in Sweden—Gahn and Berzelius: in Italy—Fontana, Scopoli, Brugnatelli, Morichini; in France—Parmentier, Deyeux, Gay-Lussac, Thenard, Vauquelin, Majendie, Margueron, and a crowd of others: in England—Davy, Bostock, Henry, Roget, Hatchett, Home, Walleston, Marcet, Scudamore, Carlisle, and fifty others of the medical profession, are engaged in it: every day increases the ardour with which this branch of science is pursued, and the votaries attached to its pursuit, because every day brings its vast importance more fully in view. Is this the favourable opportunity to decry the study of it here? to deny the necessary connexion of chemistry with medicine, and to regard it merely as an ornamental branch of medical education?"

"It is a wise dispensation of Providence, that death should periodically remove the generations of the human race: were it not so, the progress of improvement would be stopt: for it is hard to convince ourselves as we advance in years, that the world of the present day can be much wiser than the world of our youth; and those who have neglected to keep pace with the progress of knowledge, never will be convinced of it.

"I hope, however, that on this subject I have been able to produce facts and arguments of sufficient cogency, to show, that whatever might have been the state of medical chemistry when my cotemporaries were young, it holds a present rank among the branches of useful sciences, which is far superior, and too imperious to be slighted: and that I do not express myself too strongly when I say, that it is a branch of science INDISPENSABLE to medicine."

We are much gratified in finding that Professor Cooper's masterly performance is already illustrated by a new Treatise on *Medical Chemistry*, from the pen of a gentleman too, who is eminently qualified to add weight and authority to the present question. He is also a witness of the lamentable fact, that students of medicine (in Philadelphia) rarely devote much study to the science of chemistry: that they regard it as non-essential and almost superfluous. It was a very inauspicious influence indeed, that which could have thus so easily subverted the mind and emulation, prevailing in that interesting period of time which we have already described!

The modest writer has removed himself from scenes of controversy; yet he pays a liberal contribution for the honour of the school in which he was brought up, and which can boast of the most numerous list of American philosophers. It appears to us that the author has had in view principally to convince the students of medicine, that there was an abundance of matter to be connected with the studies, before they could conscientiously discharge their practical avocations, in order that they should place a higher value on the science which has heretofore been neglected; or else he would have extended his treatise on medical chemistry to the numerous experimental demonstrations which connect it with physiology and pathology. But he has naturally supposed that, from a simple view of a *chemical materia medica*, the least prepared mind might be led to those fundamental principles, and acquire a self conviction, untainted with party views or controversial management. The work before us is therefore complete, and claims as much attention from the student as if it had embraced a more scientific plan of the subjects under the dominion of medical chemistry.

It is divided into eight parts: the first treats of the gases used in medicine, with the modes of their preparation. On this subject, Dr. Cooper has very shrewdly observed, that "physicians found that it required too much trouble and too much skill to exhibit

the gases, and they have been cried down." This is one of the many abuses of the profession. The higher is the practitioner, the more he reduces his medicinal agents, and medical books, to suit his convenience and want of time. The public are often injured by placing confidence in those who possess more *celebrity* than *industry!* By the modes, however, here explained, of obtaining oxygen, nitrous oxyd, and carbonic acid gases, it may be seen that infinite advantages in practice may be obtained from them.

The second part is that of the waters used in medicine, *natural* as well as *artificial*. We could have wished that the author had extended his inquiries further under this head, into the nature and efficacy of natural mineral waters. Baths of mineral waters are in this country the resort of all our rich folks, with decayed or injured constitutions; and no one of them travels thereto without a formal prescription from an eminent physician, and a strong hope of returning—cured!

The third treats of *acids*. The author might have embraced more in this article than the mineral acids; for physicians frequently extricate acids from vegetable substances. We are pleased however to find that he has not omitted the important uses of the *prussic acid*. Acids generate diseases:—acids are remedial.—What more powerful motives can there be for physicians to be professed chemists?

Dr. Mitchell makes two parts with the *simple* and *compound* combustibles—sulphur, carbon, phosphorus; alcohol, ether, sweet spirit of nitre; Hoffman's anodyne ethereal oils, &c.—on which, and on the mode of obtaining the same, he concisely and comprehensively instructs his readers.

The fourth part is that of the metallic preparations which are absolutely necessary in medicine, and highly important in a great variety of diseases.

On the subject of gold, which has fallen entirely into disrepute in Philadelphia, we will only subjoin the following information, lately received from Dr. Chretien himself, by Dr. F. Pascalis, dated Montpellier. May 8th, 1819.

"A Mons. Destouches, a military surgeon, has offered, for his graduation in Montpellier, an inaugural dissertation on the efficacy of the triple muriate of gold and soda in syphilis and other lymphatic diseases. He met with no failure of the remedy, except in one case out of nineteen."

The Academy of Science have received a favourable report by their commissaries, for the introduction of the muriate of gold as a remedy in constitutional or confirmed lues. But Dr. Chretien observes, that "the physicians of the New-York Hospital, having established the efficacy of gold in the primary stage of syphilis, it follows, that this triple salt may be depended upon in all degrees of that disease." It appears that it may be applied by friction on the gums, according to the method of Clare; and also made into an ointment with axungia, to be rubbed *intra glandem penis et preputium*, according to the method of Cerillo of Naples. Gold in substance has been also used by friction on the tongue. Two years ago a Memoir was sent to the Institute, by Dr. Chretien, to prove its efficacy by this mode of exhibition. Messrs. Niel and Bertrand, of Marseilles, have since employed gold filings by friction on the tongue and gums, and have cured by it two desperate cases of scrofulous tumors, of caries in the knee, and of cutaneous eruptions with ulcers.

The numerous metallic preparations, which, from the laboratory of the chemist, must be placed in our Materia Medica, are accurately described in their nature, process, and remedial application. The subject of earths, of alkalies, of medicinal and chemical mixtures, with a table of medical and chemical sciences, complete this very useful work, which is not a little enhanced in value by the excellent and appropriate Discourse, by Dr. Mitchell, on the Medical Character.

Medical and Surgical Correspondence.

MONOGRAPHY *of a Case of* POLYPUS *in the* HEART, *discovered in a child of eight years of age. Communicated by* HUNTING SHERRILL, M. D. *President of the Dutchess County Medical Society.*

" Hyde Park, April, 1819.

" THE attention of medical men having lately been considerably directed to a source of malady which has proved an outlet to human life in a number of well attested instances, as is demonstrated by actual examination and dissection, which has brought to view some new pathological facts, and enabled them to account for some anomalous symptoms of morbid excitement hitherto veiled in obscurity:—those more particularly referred to are diseases of that most vital and important organ, the heart—a case of which is the subject of the following remarks.

" W. B. aged eight years, of this vicinity, about the 1st of January, 1817, began to complain of indisposition, of restless nights, with some symptoms of nervous affection, and palpitation of the heart.—His indisposition gradually increased, attended with headache and pain through the lower part of the chest. About the first of February he was attacked with slight fever, some nausea and distress in the stomach, and increased headache, for which an emetic and some cathartic medicines was administered by the family, and some relief obtained; but the irregular *febrile* affection and indisposition continued, attended with the palpitation of the heart, pain in the head, shoulders, and limbs—he had still kept about and enjoyed a tolerable good appetite. In the early part of March he was violently attacked with general excruciating pain, and high febrile symptoms—the parts mostly affected were the chest, the left shoulder, and the limbs; and in the progress

of the disease, was attended with rising of blood, and that followed by expectoration of mucous and bloody matter—he lay about five weeks confined with this attack; attended with such pain and distress, in the chest and limbs, that he could not be moved without great difficulty—he gradually recovered after about the five weeks, but was still affected with expectoration, erratic pains and palpitation.—At this stage of the disease I saw him for the first time, in consultation with our venerable friend Dr. BARD—when, from the previous history of the complaint, together with the presence of emaciation, hurried respiration, and fluttering palpitation of the heart, turns of pain through the region of it, also spells of disposition to syncope and nervous irritation, and the apparent enlargement of the *thorax*, we were induced to suggest that there was an organic affection of the heart, or some of its appendages. The prescription which we made was directed rather to palliating the symptoms, than to an expected recovery—he however gradually got better, walked and rode out occasionally; the pain left him by times, and he was entirely relieved of the cough and expectoration. But through the whole progress of the complaint, he was often afflicted with those turns of difficult respiration, some nervous affection, increased palpitation, and great distress, and those spells were brought on or increased by fatigue or agitation of the mind. In the early part of May, he was taken to New-York, in hopes of improving his health, but returned in three weeks not at all amended; he was now more frequently attacked with severe spasmodic affections across the regions of the heart, attended with nausea and vomiting. From this period to that of his death, which occurred on the 25th of September, the same symptoms were frequently renewed with more aggravation, especially with œdematous swellings, great pains, and a gangrene on his feet (a constant symptom of diseases of the heart. *Edit.*). He also became so emaciated, that he resembled a skeleton wrapped up in a delicate skin.

"A case so lengthy, so painful, and so novel, had not failed to excite a good deal of public interest and

sympathetic feeling, and was one which strongly disposed me to discover something more about it by examination; and of the intelligent, unprejudiced friends, it was not very difficult to obtain assent to have the body opened, when, with a few select friends, I proceeded to the examination.

"The cavities of the thorax and abdomen were laid open; in the abdomen the liver was very much enlarged, and much harder than in a natural healthy state; the left lobe extended itself over the stomach, and reached to the left side, the gall bladder was very full of thin bile, the spleen was unusually hard, and of a darker hue than natural—the blood vessels of the mesentery were considerably distended with blood and showed traces of inflammation, the other viscera of the abdomen were in a natural state.

"In the thorax, on separating the sternum from its attachments to the diaphragm, it was found to adhere firmly throughout to the lungs and anterior part of the pericardium; those adhesions being dissected, so as to turn up the sternum and cartilaginous portions of the ribs, traces of inflammation and disease were evident in every part of the thorax. The lungs adhered to the pleura, to the mediastinum, to the diaphragm, and were firmly attached to the pericardium; and the attachments were so firm, that the separation had to be made by actual dissection. The substance of the lungs exhibited strong marks of disease and previous inflammation, but were not ulcerated—they were of an irregular, hard, dark texture, but not materially altered from a natural size. On examining the region of the heart, the pericardium appeared to be wanting, or so filled with a large mass that gave a hard spongy feel, that there was no distinguishing the heart from the pericardium, or the one from the other.—By dissecting carefully around this mass, and dividing the great blood vessels, it was taken out altogether, and proved to be the heart enormously enlarged, with the pericardium firmly adhering to it in every part, and so firm was the adhesion, that in separating them, the dissecting knife had to be used for a great part of the process.

Having finished this part of the operation, the heart was exposed, and was as large as that of an adult, and of a soft, spongy, yielding, fleshy feel. The ventricles, particularly the right one, was very much enlarged, and the right auricle was of very uncommon size; the aorta was of a natural size and texture—the pulmonary artery was rather distended and its coats thin—the pulmonary vein was also considerably enlarged. An opening being made into the right auricle and ventricle, a large polypus, of a pale red colour, and spongy feel, was discovered rising from the parietes of the right ventricle, and extending to the left auricle, there enlarging to the size of a hen's egg, distending and filling that cavity—a branch or elongation of it passed through the auricle, and ran into the pulmonary vein about two inches; it then divided into two branches, each two or three inches long, running into the branches of the pulmonary vein—at the superior edge of the ventricle at its union with the auricle, a small ossification had taken place—also, in the upper part of the auricle, the part farthest removed from the orifice of the ventricle, there was a second polypus about the size of a small nutmeg, and a small quantity of ossific matter near it.

"Query, 1st.—Is a deposition of ossific matter generally attendant on polypi of the heart?

"2d.—Were the gouty symptoms with which he was harassed, particularly in the latter part of the disease, a real arthritic disease, and those ossifications depositions of arthritic matter?

"3d.—Was the polypus a cause of the inflammatory affection, or did the inflammation in the chest cause the polypus?

"An investigation of this subject must appear a conclusive and instructive inquiry, for a learned and ingenious physiologist."

PARALYSIS, *caused by Apoplexy—treated by copious Depletion. Communicated, December*, 1819, *by* Dr. CORNELIUS C. BLACHLY.

Hunterdon County, New-Jersey.

ON the 17th of October, 1819, I was called to visit J..... H..... about sixty years of age. He had been put down this morning, with an almost total obliteration of sense, and privation of motion. The extremities of his left side became paralytic, and a general sound of half pronounced words ended his efforts of speech. His pulse was slow, labouring and intense.

As dissections have demonstrated that effusions in the head, of some kind, occasion paralysis, and considering these as tantamount to compression on the brain; and knowing well the habits of this patient, to have been exerted for a long time in full feeding and ardent potations, of various kinds, the resolve was settled, to give full play to the prostrate powers of the sanguiferous vessels by depletion. In the space of an hour, or thereabouts, at two operations, nearly half a gallon of blood was taken from his arm, with evident relief at, and after each operation. His blood was dark and thick, without offering either serum or separation. About an hour afterward, finding his pulse more free and undulating, by direction he took ten grains of the submuriate of mercury, with ten of jalap, and when dijections were procured, to take lightly of water gruel made of maize, salted, or sweetened with sugar; and afterward to take so much of it, and nothing else, as would be barely sufficient to keep him alive.

The next morning he moved his hand better; his foot had half its wonted motion; his speech was more natural, his pulse more easy and free in its movement, his mind more cheerful and rational: his cathartic, though slow in moving him, he said had operated all night; and demanded chicken soup and ardent potation, or he should starve. These were denied, and his diet insisted on, and it is believed was complied with.

He could not be seen on the subsequent day. He had, however, been in all respects better and walking without assistance about his house. This day he moved his left hand with freedom, quickness, and ease; with his left leg he gave an exulting kick, which manifested that it had resumed its accustomed motion: his mind was cheerful, more settled, and rational, and might be called a convalescent. His broken constitution, from excesses long indulged, makes us dread another attack. But this would imply no more, than that a recovery might be from apoplexy this month, and that excesses might induce apoplexy and death the next.

As this is the second instance of a recovery by similar means, under my notice, even now it is fearfully and respectfully intimated. The learned in medical science must determine when, and how far the treatment ought to be rejected or imitated. To you therefore is left the fate of this fragment.

The long laboured edifice of the healing art, consists of the scattered materials of facts. Some build its rooms, and some bring its rafters; while others, more exalted, erect its dome. The writer would be pleased to bring something, to cement or save the sanctity of the structure—some material, to evince his willingness to forward the work, or to give humble testimony of the individual triumph of the art. At the same time he would declare his obligations for your labours, and tender his respect.

ABSALOM BLACHLY.

FELIX PASCALIS, M. D. New-York.

REMARKS.

I am confident that the paralytic symptoms formed in the above case, were produced by the turgid state of blood vessels in the cerebral system previously clogged by high living and intemperance. The prompt recovery of the patient proves enough, that no effusion in the ventricles could have taken place, or else it must have required a longer period of time to be removed by absorption; nor, can we infer, from the prominent

circumstances of this seizure, that there was any lymphatic disease in the subject from gout or arthritis, the transportation of which on the brain would surely have determined hemiplegy, which is seldom perfectly cured at an advanced period of life. The case was then of the nature of apoplexy. It was well judged in its diagnosis, as promptly requiring a profuse depletion by bleeding. It has been much discussed in England and France, by eminent physicians, which of the two (venesection or active emetics) should be preferred in apoplexy. Both indications have been defended with equal authority; for in *serous* apoplexy, as it has been called, induced by congestion in the *primæ viæ*, or in the respiratory organs, bleeding has often proved fatal; but, on the other hand, emetics have been highly beneficial. Again, in the most imminent danger of apoplexy and plethora, the operation of an emetic is slow in its effect, or it remains inactive. I feel inclined to conclude, that a vein should always be opened in the first instance, provided an attentive practitioner should alternately, and *pro re natâ*, unload the digestive organs, or the sanguiferous system.

Morbid Effects of Cold Water on a Debilitated Stomach; illustrated by a Case. *By* Th. D. Mitchell, M. D. Norristown, Pennsylvania, July 3, 1819.

It has been, for a long time, the opinion of many persons, that cold water may be drank with perfect safety, by those who have not been exposed to a high degree of heat, or who have not been greatly fatigued by laborious exertion. The case about to be detailed will evince the fallacy of this opinion, and cannot fail to establish the fact, that cold water may and does produce deleterious effects when taken into a stomach debilitated by inaction, independently of any previous state of general debility induced by heat and exercise.

S. M. G.,—the subject of these remarks, is a young man of about 21 years of age, of very delicate constitution, and of a pulmonary predisposition. He is by occupation a store-keeper, and has been in the habit of walking to and from Philadelphia (a distance of about 16 miles) in warm weather, generally once a week, and had performed one of these journeys but two days previous to his attack. On the 26th of June, at about 12 o'clock, his father perceived him on the shop counter, in a reclining position, as though he were asleep, but of so pallid a hue as to induce the belief that he had fainted. On examination, he was found to be in a state of complete syncope, and when I saw him (not 15 minutes afterwards) he was without pulse, his wrists cold, and in short, to all appearance, lifeless. I began immediately to use external stimulating applications of various kinds, such as sinapisms, water, almost boiling hot, to the extremities, frictions with hartshorn, spirits of turpentine, &c. For half an hour, there was scarcely any pulsation perceptible; the respiration was at long intervals and laborious, and the jaws were so locked as to render it almost impracticable to introduce any thing into the stomach. During this time, no cause could be assigned for the attack, as he had not been fifty yards from the store, nor engaged in any sort of fatiguing employment. Presently, however, he was seized with violent spasms of the stomach, which continued for two or three hours, to relieve which I gave a tea spoonful of laudanum every fifteen or twenty minutes. I now suggested the probability that my patient had been drinking freely of cold water, which, acting on his empty stomach, had produced all the unhappy symptoms. I found that the accident occurred just before the usual dining hour of the family, and that my patient had eaten nothing since his breakfast; but no one knew any thing relative to the cold water, nor were any of the family disposed to believe that a person could be injured by cold water, unless previously heated. Caring but little, however, for the cause of the attack, I persevered in the use of the external and internal stimulants, until twelve bottles of mustard.

and three of Cayenne pepper, were consumed, together with a quantity of other articles. At about six o'clock P. M. and not until then, he spoke a few words, but soon relapsed into a state of stupidity, the spasms of the stomach having been nearly removed. The treatment was continued as rigorously as before, until nine o'clock at night, when he again spoke, and held a conversation of some length. During this conversation, he was interrogated relative to the cold water, and he assured me, that the last thing he could remember, previous to his attack, was, that he took a free draught of cold water, from a particular pump in the borough, which he specified, well known as the coldest water in the neighbourhood. I was now perfectly satisfied, that all the circumstances of the case were justly attributable to the cold water. My patient appeared so much better, that his attendants neglected to use any of the external applications during the night; and in the morning I found him in a state of stupor, the pulse small and quick, the tongue brown and furred, respiration laborious, and the skin dry and hot. I was now apprehensive of typhus, the more particularly as I had but two days before lost a patient with that disease. I immediately began to stimulate, with powders containing two grains of opium, and three of calomel, exhibiting them hourly, and at the same time directing frictions of spirit terebinth. and tinct-cantharides. Under this treatment, his pulse improved a little in the course of the day, and his powders were renewed at night, to be taken regularly until morning. I found his pulse the next day rather fuller, and less frequent, and gave him some more powders. At 12 o'clock (noon) his pulse was so much improved, his tongue and skin so natural, and his sensibility to the external applications so keen, that I discontinued the powders. From that period he improved rapidly, and as his bowels had not been moved for two days, and as I was fearful of so much calomel as he had taken, (40 grains) I gave him a dose of senna and manna, by which he was gently purged. Nothing now remained, but to attend to his extremities, which by the long continued use of sinapisms, &c. were considerably ulcerated.

The prescription of opium and calomel, for cases of feeble morbid excitement, I borrowed from Drs. Maclean and Yeates, authors of the "Science of Life." They were in the habit of giving opium and calomel, hourly, in large doses, with a view to keep up the excitement; and they found that when thus exhibited, neither the narcotic effects of opium, nor the cathartic effects of calomel, were produced. My experience in this practice corroborates their opinions, and I cannot but prefer this mode of solid stimulus, to the more common practice of administering wine, brandy, and similar articles in like cases.*

A Case of Successful Treatment of CATARACT *and* AMAUROSIS *on both Eyes, by attempts of Couching, and by the successive destruction and absorption of the Crystalline Lens. Communicated by* JOHN BECKWITH, M. D. *of Salisbury, North Carolina, June 25th,* 1819.

AMONGST the vast variety of useful matter with which the Medical Repository has for so many years been enriched, I do not recollect to have seen any cases of cataract reported. Perhaps they may be regarded by those who are in the habit of operating, as too common; and that the mode, like that of amputation, is so well established, and so generally understood, as no longer to need examples of success or failure, to illustrate the subject. With professors, and in hospitals, this probably is true; but to village practitioners, like myself, I presume cases, showing the varied success of operations, are as yet not wholly without interest. In the subjoined case, I do not pretend there is any thing remarkable; still it may encourage some one to persevere under circumstances not the most favourable. If you think such would be its tendency, it is at your disposal. I have selected it from several,

* Vid. Medical Repository, Vol. IV. N. S. pag. 421.—Vol. V. pag. 157.

and without attaching any importance to my repeated attempts and success in the case.

Jacob Cope is now, July 28. 1813, about 44 years of age, thin and sallow; and for several years past has been greatly afflicted with intermittent fever. The sight of both his eyes has gradually become obscured within two years—for the last three months he has been nearly blind. He can merely determine the situation of the windows and doors, but not the form of objects. His eyes are somewhat sunken—the cataracts have a pearl colour. To-day, after securing him in a low chair, with his head supported by an assistant, on the light of a window looking to the north, I attempted to introduce *Hey's* flat-pointed needle, oiled, into the outer angle of the left eye, about three lines from the cornea. It passed easily about one fourth of an inch through the sclerotica, into the vitreous humour; but, to my great vexation, could be carried no farther, on account of the disproportion of the shaft to the cutting edge. After several fruitless efforts to complete the operation, I was compelled to withdraw the needle and abandon it. He complained of a slight degree of pain, which in a few minutes subsided. Both eyes were covered with simple cerat, spread on soft linen, and a curtain confined to the forehead, kept constantly wet with aq. litharg.—he took a gentle cathartic. No inflammation succeeded—there was a little redness only about the puncture. *August* 1st. I this morning seated him on a pillow upon the floor, brought his head back, and rested it firmly on another pillow between my knees, and passed *Bell's* straight spear-pointed needle, slightly convex on one side, and concave on the other, into the outer angle of the right eye, three lines from the cornea. After fairly entering the vitreous humour, I carried the point directly towards the opposite margin of the iris, with the view to transfix the crystalline, and then depress it—it could be plainly seen passing behind the pupil; but on attempting to carry the lens down, I saw the needle moving through it, without producing any change in appearance or dislocation of it. The point was then

carried through the pupil and moved in various directions. A soft cheesy substance was now seen slipping through the pupil, and settling at the bottom of the anterior chamber of the aqueous humour. The capsule was evidently ruptured. I pushed as many pieces of the fractured lens through as possible, and after tearing the capsule, so as to leave a visible aperture through its centre, nearly equal to the dilatation of the pupil, withdrew the needle and dressed the eyes as before. *Aug.* 4th. On examining the eye, the conjunctive was found red; but he complained of no pain, and rested well.—He could see objects in the shade indistinctly. *Aug.* 5th. No pain—conjunctive still suffused—numerous flakes are discovered within the pupil: I apprehend the operation will have to be repeated. *Aug.* 10th. As it was now inconvenient for him to remain longer in town, I directed him to continue the applications, and go into the country for a few weeks, and return when the eye was well. *Sept.* 2d. He returned to-day—little advantage is derived from the operation. Adhesions have evidently taken place between the capsule and iris: the pupil is irregular, and does not readily dilate nor contract. This afternoon I operated on the left eye again. The cataract was very soft, permitting the needle, which was also spear-pointed, and slightly curved toward the concave side, to pass with ease through it, and appear bright in the pupil. Having adopted the opinion, that the posterior chamber of the aqueous humour is too narrow to admit the needle between the ciliary processes and the lens, without injury to the former, I plunged it directly into the latter, disregarding Scarpa's injunction, that "the operator should conduct the convexity of the needle upon the summit of the opake crystalline, and by pressing upon it from above downwards, cause it to descend a little, carefully passing the curved point at the same time between the ciliary processes and the capsule of the lens, until it be visible before the pupil." I then moved it in various directions through the crystalline, and broke in pieces, and tore the capsule as much as possible. Pretty large floculi were now

seen tumbling through the pupil, and in such quantities as to fill the anterior chamber up even with it. By continuing this work, the whole aqueous humour became obscure and cloudy—the needle was then withdrawn. N. B. The shaft of this needle likewise was too large for the cutting edge—it could not be moved back and forth, but with difficulty; it is a serious inconvenience, and should be guarded against: 8 ounces of blood were drawn from the arm,—he was directed to lie down, avoid the light, have his eyes bathed three or four times a day with warm water; take a cathartic, and observe a low diet—the usual dressings were applied. *Oct.* 3d. He passed rather a bad night, his eye was painful, and he had slept very little—some fever. Repeated the cathartic, and applied mullen leaves boiled in milk, over both eyes. *Oct.* 4th. The mullen produced almost immediate ease—he passed the day and night comfortably—slept well—conjunctive red—aqueous humour clear—the floculi still occupy the same situation—pupil looks dark, and contracts very much on exposure to light. *Oct.* 5th, 6th, and 10th. No pain—inflammation has subsided, and the fragments are absorbed. I presented my pocket handkerchief, and asked the colour; he answered promptly, *it is red!* He could likewise see the outlines of my watch, and knew the face of one of his neighbours. *Oct.* 11th. Last night a tremendous thunder-storm passed over, with such vivid flashes of lightning, as gave him great pain—he could not exclude it even with bandages and pillows. The unhappy man is now in total darkness.

His flattered hopes of being again restored to "the blessed light of the sun," are completely blasted; and he has before him the bitter prospect of groping out the remainder of his days in this dreary situation.—25th. This poor man, who had no means of support, but his labour as a millwright, and has a large family, is willing another attempt should be made to relieve him. The pupils appear closed by a shining membraneous substance; the iris is immoveable in the strongest light, and very irregular. I applied the ext. of stra-

monium to the eyelids, and after three or four hours the pupils were stretched and ragged. He could not find a window nor a door.

In the presence of Doctor Calvin Jones, of Raleigh, an expert operator, and some other gentlemen, I placed him once more in the chair, and operated with Scarpa's needle; Sander's was not then in my possession. As the point could not be seen through the membrane, I carried it to the centre of the eye, and then brought it up against the posterior side, pushed it through the pupil into the anterior chamber, moved it backward repeatedly, with a view to tear out such a piece as might prevent a future reunion, and as we believed with success. Very little inflammation ensued, and in a short time both eyes were well. The apertures were still visible, but his sight was not improved. I now began to suspect amaurosis was coming on, and as his general health was exceedingly bad, I advised him to return to the country, and wait patiently the effect of the operations.

December 1st. He came again to this place, on his way home to Wilkes County, greatly depressed, enfeebled, and still blind. He had suffered much by sickness during his absence.

April 16, 1819. I was this morning very agreeably surprised by seeing him enter my shop, without a guide, and with a firm and confident step. He had travelled on foot from Wilkes, a distance of sixty miles, to thank me for the restoration of his sight. It began to improve about the first of January. He can now distinguish objects with great ease and clearness—pebbles in the street are discernible, and he can see children playing at the distance of a hundred yards. I gave him a pair of convex spectacles, with which he can see well enough to read a newspaper. Both eyes are equally good.

REMARKS.

It is a remarkable, and much to be lamented fact, that whatever improvements have been introduced in

surgery, for the operative cure of cataract, since the days of Baron de Wenzel, by Hey, Ware, Scarpa, Sander, and Adams, and however skilful the operators have been in hospitals or private practice; however possessed of all precautions and correct modes, still a great number of failures every day take place, and these are defined as the results of accidents subsequent to the operation, or as a continued blindness, with an aggravated condition of the organ. We may therefore venture to assert, without fear of contradiction, that one half of the operations prove abortive, and that one third of the operated remain injured by it. From this view of the subject, and from the interesting circumstances in the above narrative, we are induced to offer some observations on the pathology of the eye. which, in cases of cataract, is frequently connected with amaurosis, or gutta serena.

It may be said, that the recent method, by Adams, of dividing or lacerating the capsule of the lens, by the needle introduced in front of the pupil. whereby the last is immediately put in contact with the aqueous humour, is evidently the most perfect mode of operation, and that by which Dr. Beckwith accomplished his object, as he destroyed, all at once, both anterior and posterior capsules.

Wenzel was the first who, by accident, discovered the power which the aqueous humour has to dissolve the whole crystalline. Scarpa applied the same to the dissolution of the milky cataract; but Adams, of late years, has construed the whole operation on that principle, and conclusively thought that nothing more was required than to expose the crystalline to a contact with the aqueous humour.

In spite of all these improvements, we find that failures will arise from excess of irritation, in and after operation, or from disposition to amaurosis. That these obstacles must be guarded against, the above case evidently proves. By none of the punctures. though carefully executed to dislocate or depress the crystalline, nor by the separation of the adhering capsule to the ciliary process, has the patient ever received any

sensible benefit until after the last operation, and that only after four months of confinement and of deprivation of sight.

It had been properly remarked, that the subject had long been sickly with intermittent fevers, &c. He was, therefore, predisposed to an aggravation of the organic complaint which had been formed under that previous morbid condition. A strong proof of this, we perceive in the event of the third operation; after which, and during many days, the patient could distinctly describe objects, colours and persons, but was suddenly and by the event of a thunder-storm, and exposure to vivid flashes of lightning, again plunged in total darkness. After the last operation, which was eventually productive of more irritation in the eyes, he remained enfeebled, and still blind; nor was it but after four months, that he gradually recovered his sight. The causes which may thus accidentally, or naturally, restrain the power of the retina or of the optic nerves, may therefore be taken in consideration to account for many unsuccessful operations of the cataract; besides the absolute state of amaurosis with which this case has probably originated, and which by some means has been removed, the cure did not exclusively depend upon the surgical operation; we presume that in a great number of instances, the disease should be controlled by the science of medicine, with which the art of surgery must proceed hand in hand; then only, so many disreputable failures of the operation of the cataract will cease to take place. The perseverance in the proposed object, and until the operation is accomplished, in circumstances which present more difficulty, has been remarkably exemplified by our Carolina correspondent; and by it he has not only served the cause of humanity, but also that of the profession, proving with what safety, and what little painful results, the operation may be repeated, at short distances of time:— We tender to Dr. Beckwith our thanks, for the many instructive points we have derived from his communication.

INTELLIGENCE.

ATMOSPHERIC CONSTITUTION, DISEASES, *and* MORTALITY *of the City and County of New-York, for October, November, and December*, 1819.

January, 1820.

THE last fall and winter months of 1819, have not materially differed (temperature excepted) from that atmospheric constitution, to the prevalence of which we have several times called the attention of our readers. The range of winds has very seldom varied from N.—N.W.—or S.W., nor have these been often observed in an east or south direction, in the month of October.

Our daily tables for November offer the same result, and both months have elapsed perfectly dry, and we might almost say uninterruptedly, had not the pavement been a little sprinkled on the 25th of October, and on the 16th of November. We were relieved from an almost calamitous drought in December, but the range of winds from N. to S. W. continued during that month until the 30th, when a violent snow-storm, blowing upon us from the north, terminated the year by the gift of nearly two feet depth of drifted snow. The cold weather sat in much earlier than in former seasons. On the 12th of December, we experienced a hard frost; but it became intense on the day of the snow-storm. from 17° to 12° below the freezing point.

North-westerly and south-westerly winds, we have long ago remarked, (vide Vol. IV. p. 420) are purifiers of the atmosphere, the more so, that their dryness, which has been insensibly felt in economical horticulture and domestic cares, could not afford any vehicle to marsh or pestilential miasmata. Hence, while the same atmospheric constitution has existed, and as long as it does exist, we may contend that no epidemic disease in summer or winter will prevail among us, and moreover, that the ordinary occurrence of febrile and other usual complaints will be, and is, consequently, diminish-

ed. Thus we account for the remarkable degree of health which this population has enjoyed, for the long period of eighteen months or two years.

Were we not to consider the subject any farther, it would appear difficult to reconcile with it the almost universal prevalence, during the summer, of malignant fevers, at an alarming degree, in our southern parts, and in almost every one on the eastern coast, in addition to which, many new-settled countries on the borders of navigable rivers and lakes, have suffered the same visitations.

But our readers, who have attentively examined the documents we have laid before them, on the subject of yellow fever, will remember, that the concurrence of an extraordinary degree of heat during summer, with an uninterrupted dryness from the early part of the spring, had greatly lowered our large navigable rivers, which had not previously received from the northern regions the usual and yearly quantity of water, as but little snow had fallen during the previous winter, and not before the middle of February, in this district. Marshes and ponds have remained dry; and if not, they have been still more dangerous in southern states, where immense surfaces, made up of vegetable and animal matters, have been exposed to the operation of fermenting heat. That, from such sources, the lower orbit of the atmosphere has been contaminated in many places, we are perfectly convinced, nor does it invalidate our assertion respecting the general healthy constitution of the atmosphere, especially if in further confirmation of it, we find that no other morbid effects have in any place been manifested, but those which were under the determined agencies which we have often described and explained. We will go farther, by proving that the mortality of this populous district has been lessened during this year, and during the epidemical period; also that ordinary febrile complaints have, in a considerable proportion, diminished.

By the annual report of mortality of 1819, in the city and county, as laid before the honourable corporation, by the city inspector, Dr. G. Cuming, an abstract

of which is subjoined, we find, 1st. that, although by the late census, it appears that our population has nearly reached 120,000, less deaths have occurred during the first nine months. by 109—than in 1818:—2dly. that deaths in all kinds of fever, including those of the malignant yellow fever, during the same period of time, are less by 35 than in the preceding year:—and 3dly. that the ordinary standing malady of typhus, which, in the preceding year, produced 201 deaths, has caused, during the last, only 123: less, therefore, by 78.

These results, from undoubted and authentic observation, will, no doubt, exhibit, in its full force, that true observation of the local causes of pestilential diseases, that are brought into activity by the characteristic nature and forms of seasons; that throughout the immense extent of the North American luxuriant and fertile regions, the hand of industry has had no time yet to provide against eventual unfavourable seasons, by assembling the scattered waters, and regulating their channels, and by converting all manured grounds into productive fields or wholesome prairies; in fine, by correcting all possible nuisances in populous cities. No pestilential stigma therefore can be attached to the American climate.*

* It has not been in our power to introduce here a more detailed statement, by the City Inspector, of the contrast of deaths by fevers and diseases, of children and others, during July, August, September, and October, for the two years; by which the above mentioned decrease of deaths is ascertained. We refer our readers to the official document, which no doubt will be published.

ANNUAL BILL OF MORTALITY, *of the year* 1819, *for the City and County of New-York, as reported to the Common Council, by* DR. G. CUMING, *City Inspector.*

1819.	*January.*	*February.*	*March.*	*April.*	*May.*	*June.*	*July.*	*August.*	*September.*	*October.*	*November.*	*December.*	*Total.*
Men - - -	74	68	71	76	74	72	60	87	76	83	94	60	895
Women - - -	62	46	46	51	51	41	61	77	64	66	71	67	703
Boys - - -	56	68	40	53	42	54	84	151	109	80	62	52	851
Girls - - -	58	41	42	46	29	40	56	145	110	80	39	41	727
	250	223	189	226	196	207	261	460	359	309	266	220	3176
OF WHOM WERE OF													
The age of 1 year and under - - -	70	58	44	53	33	56	86	168	110	71	51	47	847
between 1 and 2 - - - -	10	18	13	10	14	12	27	80	61	33	15	13	306
2 5 - - - -	17	11	14	18	10	11	9	24	23	19	14	18	188
5 10 - - - -	6	9	3	9	10	5	6	11	8	21	9	6	103
10 20 - - - -	13	9	11	13	8	10	12	17	15	21	17	11	157
20 30 - - - -	27	25	26	36	26	29	35	39	37	44	40	26	390
30 40 - - - -	22	30	28	22	37	32	26	54	37	34	34	27	383
40 50 - - - -	25	31	26	23	24	21	24	25	29	19	38	31	316
50 60 - - - -	25	14	15	18	13	12	12	17	15	18	25	16	200
60 70 - - - -	18	11	8	11	9	8	11	11	14	14	10	10	135
70 80 - - - -	8	6	8	8	8	11	6	9	3	12	7	7	93
80 90 - - - -	7	1	3	4	3	0	7	4	4	2	5	5	45
90 100 - - - -	2	0	0	1	1	0	0	1	1	1	1	2	10
of 100 and upwards - - -	0	0	0	0	0	0	0	0	2	0	0	1	3
TOTAL,	250	223	189	226	196	207	261	469	359	309	266	220	3176

Transformation *of the* White Colour *of the* Human Body *into* Black, *by the* Effect *of* Terror.

(Nouveau Journal de Medécine de Paris. May, 1819. p. 22. Vol. IV.)

THIS new fact, in addition to that of *la femme Gaillard*, as related and explained in our preceding volume, page 366, confirms the truth of a phenomenon, on which we have already bestowed much attention. This differs from the former, as it was brought on by terror, and that was caused by grief. Both subjects were very aged women: the first died with pneumonic symptoms, and this with enteritis; the last however had lived a much longer period of time, upwards of twenty years, in her degraded condition, and died at 75 years of age. Her name was *Mary Agnes Letellier*, of Troyes in Champagne, of feeble health and constitution. She experienced the change of colour in consequence of having, during the revolutionary acts, undergone sentence of death, and finally been delivered into the executioner's hands, from whom she was rescued. After a minutely detailed dissection of her body, nothing was found that could account for this extraordinary change of colour, but the *rete mucosum* (le corps muqueux). This was of a brownish black colour; and as if covered with a pigment, it moulded itself on the internal surface of the *epidermis*. This singular circumstance was observed in the case of *la femme Gaillard*. Mons. Rostan, who discourses on this subject, attacks the reporter to the Faculty, and controverts his arguments, for having made of the *femme Gaillard*, a case of black *icterus*. As he gives no further satisfaction on this phenomenon, we must find fault with him for calling this a *second case* of like metamorphosis, and for representing it as a newly discovered disease. Had he been better informed, he would have been acquainted with the work of his countryman, Lecat, who in the year 1765, published a treatise "*de la couleur de la peau humaine en general, et celle des negres en particulier, et de la metamorphose d'une de ces couleurs en l'autre.*"—Besides many cases of such trans-

formation, which he has recorded, there is in his book, that of a French dutchess who turned black. We are perfectly acquainted with his elegant writings, on professional subjects, also with his eminence and authority. His opinion was, that the black colour was effected by a morbid secretion or deposition, on the *rete mucosum*, of a substance which he denominated an *animal æthiops*. Had Lecat lived in our days, and been versed in our chemical products, he no doubt would have joined us in asserting, that the black colour in human subjects, was caused by so much of the carbon from the blood deposited on the rete mucosum of negroes, as is exhaled, in the white, through the lungs, in the form of fixed air, or carbonic gas. Since our publication on this subject, in our preceding volume, we have ascertained the same by experiments, and we remain pledged to explain and illustrate it at some future period.

Case of Delirium tremens, *Successfully Treated.*

(Lond. Med. Repository, March, 1819.)

THIS is a malady incidental to those who frequently indulge in the intemperate use of spirituous liquors. It differs from an ordinary state of intoxication, by being attended with fever, headache, sweaty hands, faulty speech, delirium, and great tremors of the limbs. It is probably induced by a gastritis, or inflammation in some other part of the digestive apparatus, while the nervous system is almost overcome by indirect debility. We mention this case, as in this country, instances of the kind are but too frequent among the unguarded labouring class of people, and which rapidly prove mortal. We are informed of a successful treatment of this case, by immediately abstracting 12 ounces of blood from the nape of the neck by cupping; by administering an active drastic dose of ext. colocyn. comp. and hydrarg-submur. After which the feet were

bathed in warm water, while a cloth wetted with cold vinegar and water was applied to the head, previously shaved. By successive large doses of tinct. opii, the paroxysms of tremor and delirium were checked. In the intervals the patient was supported by a tea-cup full of beef tea. The whole treatment was continued by alternating all the above remedial applications, according to the abated or renewed symptoms, and in six days the patient was perfectly restored.

ACU-PUNCTURE, *considered in its Curative Effects.*

THIS is a Chinese and Japanese remedy, called *Xin-Kien.* It is there popular and generally resorted to. The medical, or rather surgical practitioner, is taught to have with him a set of needles, of different sizes and metals, but principally of gold. He is to be judge of that part of the body, on which one or many needles are to be transfixed. Sometimes he makes a great number of superficial punctures on a determined space; or he may plunge a needle more deeply. It is to be remarked, that there is no manner of danger to be apprehended from the operation, even if the stomach or some glands were punctured. Experiments have recently been made by Dr. Bretonneau, of Paris, on young animals, in which the brain, the heart, the lungs, &c. have been perforated in various directions, without any serious or remarkable consequences. By this operation, the Chinese think they can draw out pain, fever, or any morbid action, and cure diseases. The subject has of late years been considered worthy of the attention of physicians, by a Mons. Berlioz, Doctor of Medicine in Paris, who wrote a Memoir upon it, in which he highly praises the efficacy of acupuncture in nervous affections, and various painful diseases of the muscular system. His operative process is effected with a needle of steel, three inches long, which he transfixes, he says, not by strokes of a

hammer, as the Chinese do, but by rolling it between his fingers he penetrates gradually into the part, and rarely leaves the needle in, longer than four or five minutes. Another physician, a Dr. Haime of Tour, has come out in the *Journal Universel* with four successful applications of acu-puncture. The first case was that of a girl who had suffered much from convulsions, and was lastly afflicted with an obstinate hiccough, which no remedy could remove. In this subject the needle was plunged so deep into the epigastric region, that the author thinks it perforated the stomach. The other three were of a rheumatic nature, and were also treated and cured by acu-puncture, sometimes deep in the muscles and parts which were the seat of the pain. In fine, the acu-puncture has been still more recently introduced as a remedy for amaurosis and ophthalmia, by Mons. Demours, physician and oculist to the king of France. He subjects the part to be punctured to the intumescence, caused by the vacuum of a cup, to which an air-pump is adapted. He also, according to circumstances, draws blood from the same, substituting lancet points for needles.

Extraneous Substance, lodged and long retained in the Human Body.

A Spaniard was stabbed, at the age of 17 years, in the back and fleshy part of the neck. He was cured; but he never could, any more, turn his head on either side. At different periods he experienced gatherings on or about the scars.

At the age of 60 years, that is, 43 years after the accident, he experienced acute pains in the throat, which being examined by a surgeon, a hard blackish substance was seen, and drawn off with difficulty, by the means of a small forceps. It proved to be a piece of iron, apparently the broken end of a square file, and was much corroded. It measured,——

in length,	58 millimetres,	2 inch.	2 l.
breadth,	15 millim.		7½ l.
do. at the end,	4 millim.		2 l.
thickness,	23 millim.		11½ l.

The man speedily recovered. Regretting that an accurate designation of the parts through which this fragment entered, and afterwards reached the gullet, has not been given by the informer, the editor of the *Journal Universel* remarks, that this extraordinary fact deserves notice, because any rough or sharp pieces of iron can rarely be retained in the thick muscular parts of the body.

PALO DE MALAMBA,

NEW SOUTH AMERICAN BARK;

A valuable Article of Materia Medica.

A considerable parcel of the above bark, with a descriptive Memoir of the substance and of the diseases in which its virtue have been found highly beneficial, has been sent to Samuel L. Mitchill, from the South American provinces of Carthagena and Santa Martha, through the polite agency and care of Peter Regnaut, Esq. We regret that no botanical character accompanies the communication. We are told that it is taken from the very abundant tree, called by the natives *Colpachi*, or *Palo de Malamba*. For the various remedial indications in which it is recommended, it is either used in infusion or decoction. The bark of malamba can also be pulverized and taken in substance. In fine, they make of it a sort of distilled water.

This bark presents some singular characteristics. It is covered with a yellowish white coating, not at all fibrous, and much like white lead paint. It covers a much darker and fibrous substance, charged with a considerable quantity of resinous and pungent aromatic substance, which makes it more brittle. The inner

coat is nearly black, and visibly fibrous. In substance it has a fragrant odour like cinnamon, and is exceedingly bitter, especially by decoction; but with some degree of pleasantness, imitating that of orange peel. The medicinal properties of the malamba we suppose to be very powerful and we have administered it in a few bowel complaints, with visible good effects. Were we to judge only by the numerous list of diseases for which this bark is noticed as a specific remedy, by the natives of Carthagena and Sta. Martha, we should esteem it a real *Panacea*. It should be said to be tonic, astringent, anti-bilious, anti-septic, anti-spasmodic, diaphoretic, expectorant, emetic when taken in substance or powder, anti-psoric, emmenagogue, and in canine madness, antidotal. With some degree of doubt, however, of so many important properties, we confidently believe that this vegetable substance is very precious. We hope that some of our industrious enlightened travellers, may be induced to procure some scientific and satisfactory documents, in order to extend its cultivation in our States, or to procure sufficient quantity for experiment and for the benefit of mankind.

Reproduction of a Buffalo's Snout and Tongue, after laceration and cutting.

New-York, 16th June, 1819.

Doctor S. L. MITCHILL.

SIR,

I have not the pleasure of being personally acquainted with you, but as I am impressed with full belief, that every inquiry appertaining to that useful science, Natural History, is peculiarly interesting to you, I make no hesitation to bring forward my subject. This relates to both the *muzzle* and *tongue* of the buffalo, and was introduced to me by a gentleman from the south, in narrating an account of a "baiting" one of those

animals had, this spring, near Petersburgh, Virginia, received, whereby, in the encounter between him and eight chosen bull-dogs, his nose was literally torn to rags and flittered, and tongue lacerated to that degree, which rendered it necessary to pare the one, and square-dock about three inches of the other.

It is not to my purpose to express, though it may be interesting to you to know, that the buffalo tossed and trampled his furious foes, until they could no longer withstand his impetuous rage, leading to inevitable destruction, but for the timely rescue their savage masters afforded. But to the point:—my informer remarked, in order to relieve my sympathy for the poor buffalo, that nature had so ordained with regard to this species, that the wounded parts in question were subject to renovation, and that the remarkable fact was fully evinced in this instance, wherein the buffalo had, in the space of three weeks, obtained a smoother muzzle, and the usual length, shape, and size of his tongue, to all visible appearance.

It was further remarked, that during the healing process of the tongue, it was necessary to put the buffalo's *fodder* back of the wounded part, to enable him to eat, and that since his recovery, he has been shipped to Liverpool, Eng., for fresh exercises of the sort before alluded to; this part of the argument has been corroborated to me by the owner of the ship.

Some gentlemen of my acquaintance, perhaps naturalists—perhaps not,—affect to treat this subject with ridicule; they, in my opinion, are blind to the lights of nature, in the innumerable instances produced, of deviation from general rules, which I conceive no more established, as relating to the tongues of animals, than to their horns; and hence infer, that although a human tongue, amputated in part, may not obtain complete restoration, yet that it by no means follows, that a buffalo's will not, any more than that, because a bull does not shed his horns, it will follow that a buck does not.

As these gentlemen are so unshaken and resolute in the maintenance of their opinion, to the annoyance of

mine, I could do no less than make this appeal to your known liberality, when truth commands, if I would retain peaceably my opinion, in the reputation of this, which depends, I need not say, altogether upon the decision you may be pleased to grant.

Your friend and obedient servant,

CHARLES GREEN,

No. 41, Nassau Street.

AMERICAN PHARMACOPŒIA.

On the 1st Jan. 1820, the General Convention for the formation of a National Pharmacopœia, met at Washington City. The following delegates appeared :—Dr. Eli Ives, of New-Haven; Drs. Lyman Spalding, Alexander H. Stevens, of New-York; Dr. Thomas T. Hewson, of Philadelphia; Dr. Allen M'Lane, of Wilmington, Del.; Dr. Henry Hunt, of the District of Columbia. The convention adjourned to the 3d instant, when Dr. S. L. Mitchill, from New-York, and Dr. Thomas Parke, from Philadelphia, took their seats. The convention made choice of Dr. Mitchill, President, and Dr. T. T. Hewson, Secretary.

Afterwards Dr. Abbot and Dr. Ferrill, from Georgia, were admitted to seats. The meetings were held in the Capitol, with open doors, under the immediate patronage of the Senate of the United States. Members of Congress, physicians of the vicinity, and distinguished citizens, attended the deliberations. The Convention terminated its session in the most satisfactory manner, after having finished the Materia Medica and Pharmacopœia, and ordered the same to be published. A Circular Address from the Convention to their Constituents and to the People, was ordered to be signed by the President and Secretary, and printed for general information.

Officers of the Rhode Island State Medical Society.

At an Anniversary Meeting of the RHODE ISLAND MEDICAL SOCIETY, *holden at Newport, on the 25th of August, 1819, the following gentlemen were elected officers for the year ensuing:*

PARDOW BOWEN, of Providence, *President.*
CALEB FISKE, of Scituate, *1st Vice President.*
DAVID KING, of Newport, *2d Vice President.*
JOHN W. RICHMOND, of Providence, *Recording Secretary.*
WILLIAM TURNER, of Newport, *Corresponding Secretary.*
THOMAS M. BARROWS, of Providence, *Treasurer.*
HORATIO G. BOWEN, of Providence, *Librarian and Cabinet Keeper.*
SOLOMON DROWN, LEVI WHEATON, SAMUEL HUDSON, and JOHN MACKIE, *Censors for the Northern District.*
EDMUND T. WARING, WILLIAM G. SHAW, SAMUEL WEST, and CHARLES COTTON, *Censors for the Southern District.*

Doctors Bela Colegrove, Silas James, Jr. Ephraim Knapp, John Stone, Joseph Mauran, Cullen Lamb, Hayne Simmonds, and Francis Colwell, were elected Fellows of the Society.

A Discourse on the *means best calculated to promote the interests and respectability of the Society, and of advancing the improvement of medical knowledge among its members,* was delivered by Dr. AARON C. WILLEY, of Block Island.

Dr. CHARLES COTTON, of Newport, was appointed 1st, and Dr. RICHMOND BROWNELL, of Providence, 2d Orator, for the next anniversary.

New Publications.

View of the Mines, Minerals, &c. of the Western Section of the United States; with three plates. By Henry R. Schoolcraft, Corresponding Member of the Lyceum of Natural History of New-York. In 8vo. pp. 300. Charles Wiley & Co. New-York, 1819.

A System of Chemistry, for the use of Students of Medicine, by Franklin Bache, M.D. Member of the Academy of Natural Sciences, Philadelphia. Large, in 8vo. 1819.

N. B. *We are happy to hear already a very honourable account of this American production, which it has not yet been in our power to peruse.*

Medical and Philosophical Essays; containing, 1. Topographical Sketches: 2. An Essay on the prevailing Fever of 1817: 3. On Contagions and Infections: 4. On the Properties and Principles of Electricity. The whole designed to illustrate the Domestic Origin of the Yellow Fever, and the medical improvements in the State of South Carolina. By T. L. E. W. Shecut, Practitioner of Physic, and a Member of the Literary and Philosophical Society of Charleston. By A. Miller, in 8vo. 260 pages, with a plate. 1819.

OBITUARY.

Died, at the Quarantine ground, on the morning of the 11th September, 1819, Doctor Benjamin De Witt, Health Officer of this port, Vice President of the College of Physicians and Surgeons of this city, and Professor of Mineralogy in that Institution, and one of the Censors of the State Medical Society. Early in the month of September, while engaged in his official duties, he was exposed to the intense rays of a vertical sun, with no other covering on his head, than a slight straw or chip hat; he soon experienced violent pain of the

head, accompanied with strong symptoms of the congestion of the blood vessels of the brain; at the same time, he was afflicted with an affection of the bowels, incident to the season: towards the fatal termination of the disease it assumed the distinct character of the autumnal endemial fever, marked with violence of symptoms that ordinarily are not observable, even in the most malignant form of this disease. At the time of his decease, Dr. De Witt had not yet attained his 46th year. Possessed of a vigorous constitution, and a capacious mind, temperate in his habits, and with great powers of self command, he might reasonably have calculated upon a good old age; but in the inscrutable designs of Providence, our most sanguine hopes and expectations are frequently blasted. In the course of his illness, and more particularly toward the close of it, he endured extreme bodily distress; he however retained his mental faculties, with little interruption. He requested his family to retire to rest, and closed the concerns of this life with calmness and resignation. In him the Medical College of our city has lost an ardent and disinterested friend. To his instrumentality this institution is, in a great degree, indebted for the funds which have been granted for its support, while he did himself receive no remuneration, as one of its Professors. At the death of the late Dr. Archibald Bruce, he purchased at auction, and from his own private resources, his valuable cabinet of mineralogy, in order that it might not be lost to the city, and deposited it in the Hall of the College of Physicians; he took great pains to have it arranged, and doubtless in his devotion to this subject, would have honoured the Professorship which he held.

The writer of this Obituary notice has reason to believe, that had his life been spared, he would, after the cessation of his professional duties, and at his demise, have bequeathed this valuable cabinet to the use of the Medical School. It is to be hoped that the College of Physicians and Surgeons will pay a just tribute of respect to his memory, in the erection of a suitable monument within its walls, in consideration of the very essential services which he has rendered it.